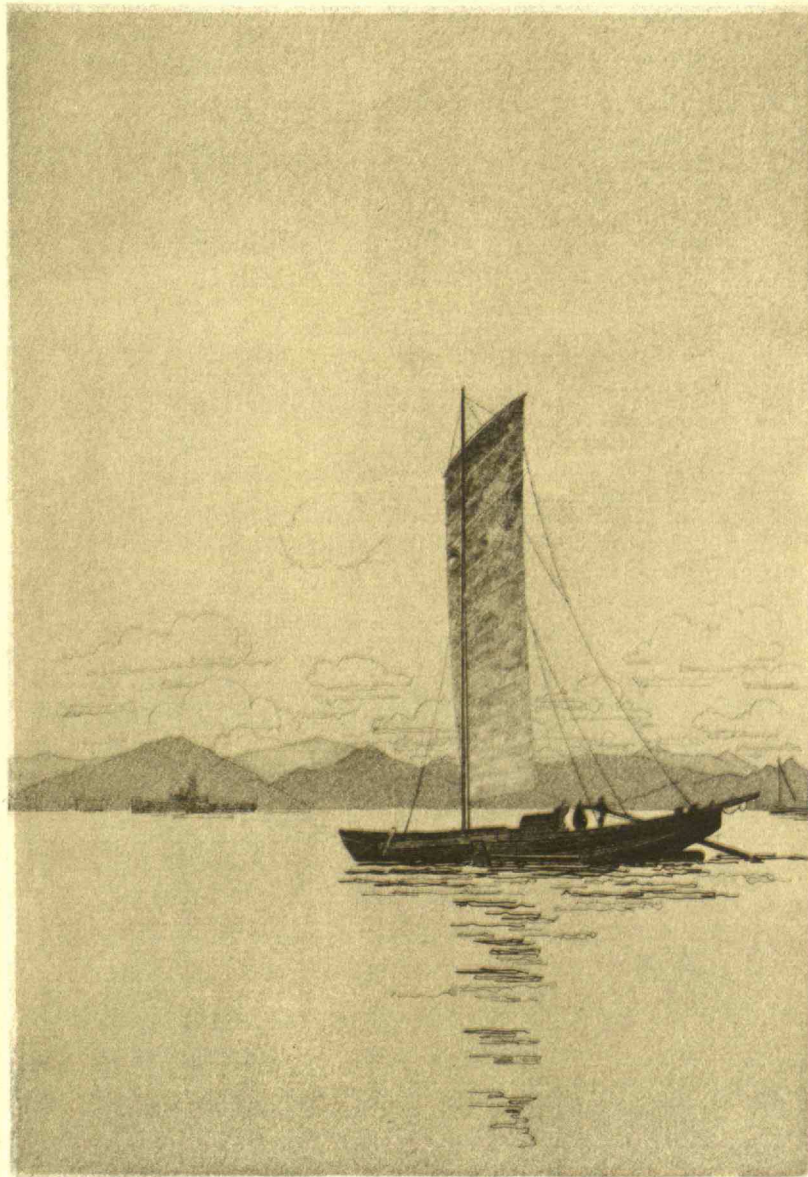


The April
TECHNOLOGY
REVIEW



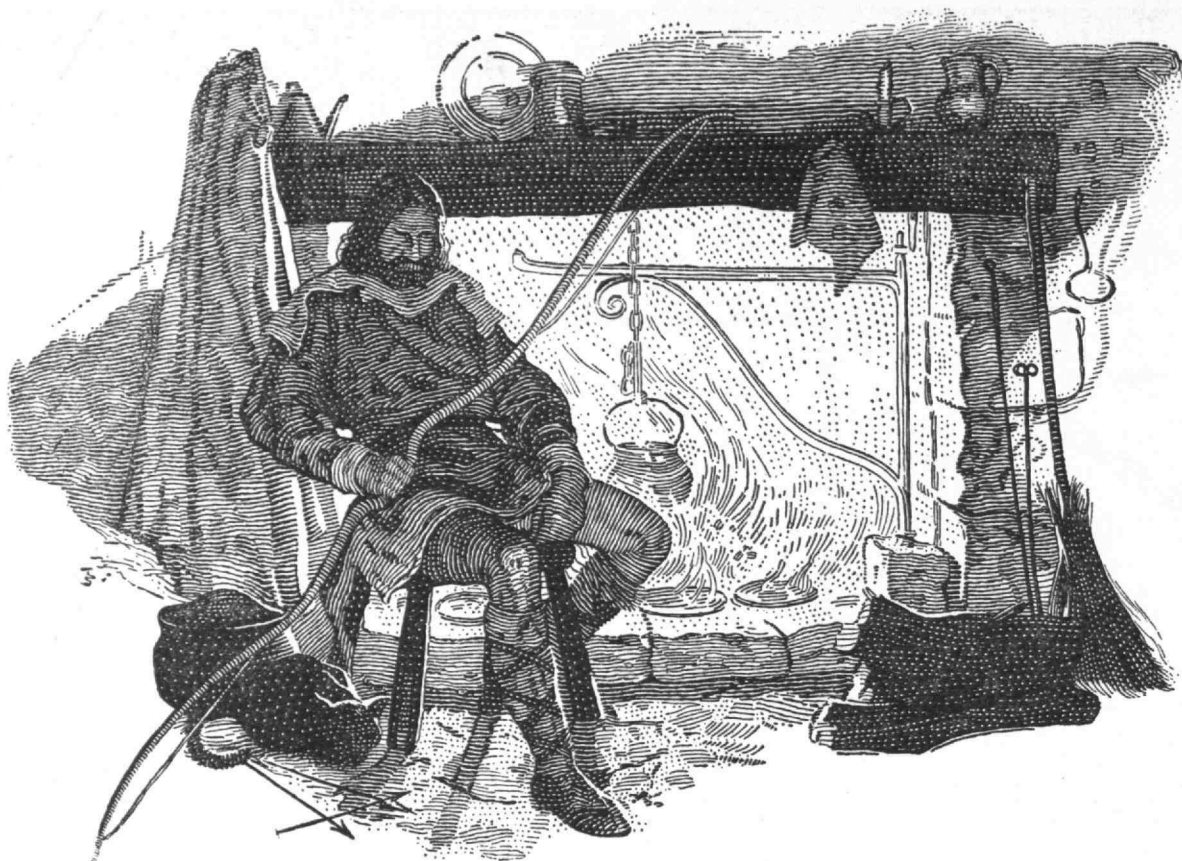
John Taylor Army - 1919

RELATING TO THE MASSACHUSETTS
INSTITUTE OF TECHNOLOGY

technology review

Published by MIT

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When a King forgot

KING ALFRED the Great, compelled to flee from his enemies, took refuge in the hut of a peasant. There he was set to watch the cakes as they baked on the hot stones; but lost in dreams of restoring his shattered kingdom, he allowed the cakes to burn; and was roundly scolded for his carelessness.



Not only huge bake ovens, but furnaces for heat-treating steel, melting pots, and dryers are among the many applications of electric heat. Unless you have been in touch with developments during the last year, there is probably some job in your plant that electric heat can do *better*. Let the General Electric Company's specialists help you—as they have helped hundreds of others—to substantial economies and improved production through the application of electric heat.

Crude implements for baking—those hot stones; and even when ovens came into use, almost equal care was necessary. Success depended on close watching of temperature and time.

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THROUGH this Division the equipment of the Institute laboratories and the experience of its staff members are made available to a limited extent for the study of industrial research problems. The original "Technology Plan" of regular coöperation with such companies as had executed a yearly contract is conducted as heretofore. In addition the Division now offers a second method for the study of occasional problems to industries which do not require a continuous service. Details of this method will be supplied upon request to those interested.

All inquiries should be addressed to the
DIVISION OF INDUSTRIAL
COÖPERATION & RESEARCH
MASSACHUSETTS INSTITUTE of TECHNOLOGY
CAMBRIDGE

The Tabular View

HOW far that little candle throws his beams!" A traveler recently returned from Europe reports having discovered a copy of *The Review* debonairly holding forth among many foreign magazines on the reading table of a hotel on the *Côte d'Azur*. Although not connected in any way with the Institute, this traveler on the Riviera found the issue a comforting friend among strangers, and encountered in its pages news of many acquaintances. ¶ Few people realize how wide spread is the distribution of *The Review*, just as few are aware that its circulation is nearly 8,000. Outside of Canada, Mexico, and the American Possessions, it is mailed to more than thirty foreign countries. Curiously, Japan leads with the greatest number of subscriptions (15). Next, in order, come the British Isles with 14, Chile with 9, France and Argentina 8 each, China and Spain 7 each, Colombia 6, Germany, India and Peru 5 each, Norway and Siam 4 each. The remainder of the total list of 135 goes to the British West Indies, Belgium, Italy, Persia, Poland, Russia, Austria, Switzerland, Liberia, Ceylon, Singapore, Guatemala, Abyssinia, South Africa, Costa Rica, Bolivia, Brazil, Uruguay, Venezuela, and Australia. ¶ The list is imposing, but the insatiable Editors are now concocting schemes for placing a few subscriptions in Egypt, Mongolia, Iceland, Jugoslavia, and the remaining countries of the world. Perhaps Commander Byrd may be induced to solicit students for the Institute within the Antarctic circle.

CONTRIBUTORS to this issue of *The Review* include a librarian, a statistician, a mining engineer, and an architect. ¶ KATHARINE MAYNARD is in charge of the Vail Library, Technology's notable collection donated by the late head of the American Telephone and Telegraph Company, and life member of the Corporation. ¶ EDWIN B. WILSON, author of the article on statistics, page 347, was from 1917 to 1922 Head of the Institute's Department of Physics, and from 1920 to 1922 a member of the Administrative Committee. At present he is professor of Vital Statistics in the Harvard School of Public Health. ¶ G. H. CLEVINGER, who prepared the report of the Advisory Committee on Mining and Metallurgy is Consulting Engineer for the United States Smelting, Refining and Mining Company. ¶ WILLIAM EMERSON, who reviews THOMAS E. TALMADGE'S "Story of American Architecture" on page 356, has been Head of the Institute's Department of Architecture since 1919. He is also a Vice-President of the A. I. A.

ANTICIPATING the dedication of the Guggenheim Aëronautical Laboratory early in June, *The Review* expects to devote considerable space in the May issue to the part the Institute has played in the progress of aviation. If plans do not go astray there will be an important article by an authority eminent in the field of aëronautics. ¶ The Review Staff, for an early issue, is preparing an account of how Technology men have furthered municipal and governmental improvements in America. The facts are so numerous and extensive that they bear eloquent testimony to the part taken by technically trained men in social progress.

The TECHNOLOGY REVIEW

Relating to the Massachusetts Institute of Technology

VOLUME 30



NUMBER 6

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H. E. LOBDELL, '17 Editor
J. R. KILLIAN, JR., '26 Managing Editor
J. D. CRAWFORD, '27 Assistant Managing Editor
R. E. ROGERS }
J. J. ROWLANDS } Contributing Editors

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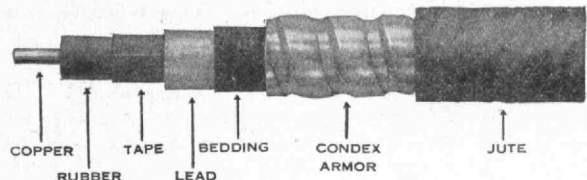
Where Will He Prepare for College?

☐ WHETHER your boy goes to Technology or to some other college with high standards, you must decide where he shall prepare himself. Realizing that this problem confronts many of its readers, The Review is enlisting the coöperation of the leading preparatory schools of the country, and on page 389 of this issue appears a list of reliable accredited schools which prepare boys for college.

☐ SHOULD you be interested in any one or all of these schools, a letter to us or to the individual schools will bring you detailed information.

☐ "SCHOOLS," we anticipate, will be an increasingly valuable feature of The Review.

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The TECHNOLOGY REVIEW

VOLUME 30

APRIL, 1928

NUMBER 6

The Trend of Affairs

THE crocus is generally accepted as the first harbinger of Spring, but those in the Institute who know do not cast their eyes upon the greensward, nor do they lift them to the heavens for a glimpse of geese flying northward. Instead, they watch Professor Robert H. Smith, who presides in the Machine Tool Laboratory, and the arrival of spring is unofficially accepted as that day when Professor Smith first speaks of Open House Night.

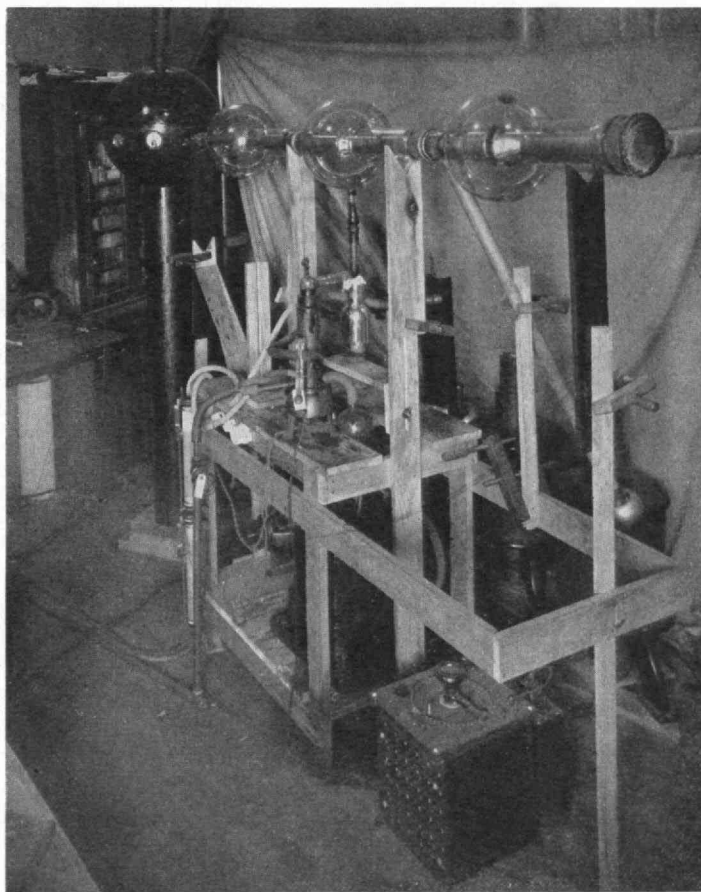
It all begins with a feverish activity in the Machine Tool Laboratory. As the sun warms, the fever grows. Suddenly, talk of Open House Night breaks out. It is infectious, if not contagious, and presently the crisis and Professor Smith arrive simultaneously at a committee meeting of the Combined Professional Societies under the auspices of which Open House Night is conducted. The date is set!

This year Open House Night is to be on April 28, and now that the date has been fixed, plans are in the making. 'Tis whispered that the bouncing ball bearings which jump through rings and do other breath-taking stunts in the Machine Tool Laboratory, already are rehearsing vigorously. "Bigger and Better" is the cry, and a number of sub-committees are now hard at work arranging for exhibits from all Departments. The best astrological information is that the signs are auspicious. This year should set new standards for Open House Night. The passing of a year brings

many changes and there will be much that is new to show the throng which comes annually to see what has been accomplished in science and engineering.

The joint executive and finance committee in charge this year is composed of four undergraduate members and three representing the Institute. Benjamin S. Kelsey, '28, is chairman of the student group, and associated with him are William M. Hall, '29; William H. Woods, '28; and Ralph T. Jope, '28, President of the Institute Committee. Representing the Institute are Frank L. Locke, '86, chairman of this group, Professor Smith, vice-chairman, and Horace S. Ford, Bursar, without whose aid much that goes to make Open House

Night possible would be unavailable.



NEW CATHODE RAY GENERATOR

The tandem tube developed by William D. Coolidge, '96. It uses 900,000 volts and is three times as powerful as his previous cathode ray tube

T. C. A. Convention

AMONG the decisions made by the Technology Clubs Associated during their convention in New York last June was one to the effect that the Clubs should convene this May, not to transact business, but to indulge in a social holiday. As President Elisha Lee, '92, announced at the time, a Reunion would be held on May 25-26, and the usual double-barrelled convention designed for business and pleasure would be held over until 1929 at which time the Western Pennsylvania Club of Pittsburgh expects to be the ram-rod. Word comes that the New York decision is being carried out implicitly and explicitly. As announced in the November Review, the

Hotel Traymore, Atlantic City, is to be the headquarters and the management of that hostelry will handle all registrations and reservations. Plans to date, still somewhat unformed, provide for a dinner dance Friday evening, May 25, as the sole scheduled function. It is felt that meetings and the like would intrude discordantly into the quiet harmony of a perfectly social holiday. Meetings would also compete with the "lure of Atlantic City and its attractions."

Lester D. Gardner, '98, is in charge of plans for the Reunion, but during his sojourn in Europe this winter, Orville B. Denison, '11, has assumed command. Assisting these men will be the Alumni of Atlantic City, ten in number. It is understood that circulars are being mailed out shortly to all members of the Alumni Association residing within 1000 miles of Atlantic City.

Distinctions

HONORARY membership in the Alumni Association has been conferred upon twenty members or former mem-

bers of the Corporation and Faculty, according to a recent announcement of the Executive Committee. Men who have been actively associated with the affairs of the Institute and the Association, never students at Technology, compose the list.

Those elected to membership were A. Lawrence Lowell, President of Harvard University; Frederick P. Fish; and Elihu Thomson, all members of the Institute Corporation. Members of the Faculty elected were Robert P. Bigelow, Davis R. Dewey, William Emerson, Henry Fay, James R. Lambirth, Gaetano Lanza, Dwight Porter, Henry G. Pearson, Winward Prescott, Archer T. Robinson, Robert E. Rogers, and Robert H. Smith. The list also includes Lieutenant Colonels John Bigelow and William Baird, and Colonels Edwin T. Cole, Frederick W. Phisterer, and Harold E. Cloke.

The addition of these names brings the Honorary Membership roster to thirty-two, of whom five are women.

The 132d Meeting

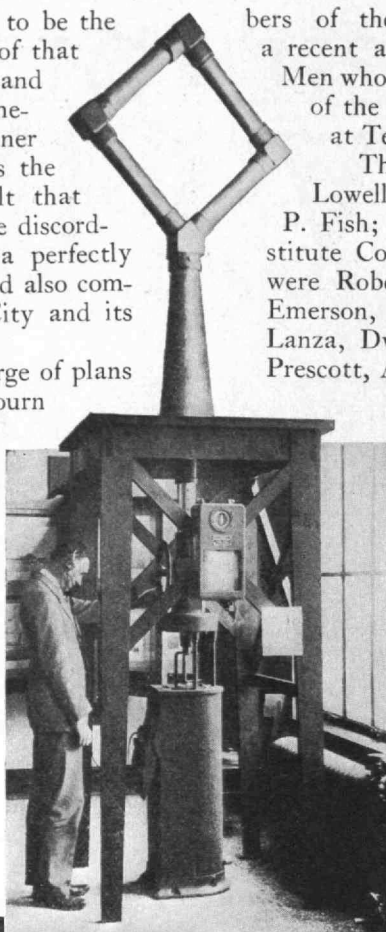
ACCOUNTS of Alumni Council Meetings, like English Restoration comedies, should be preceded by defensive, explanatory prologues, lest the writer unfairly be dubbed a wag or the Council Meetings incorrectly thought a farce. Of late, there have been rumors that both of these things have happened, and The Review's Council Correspondent

is much dismayed, for he has always been impressed by the overwhelming dignity of the august body that convenes in Walker at the beckon of its Secretary's monthly Oyez! Oyez! So impressed has he been that he has striven diligently to write of it in such a manner that even he who runs may read. To record these important meetings in an unembellished and stenographic manner would be unfair to the Council, for then it would probably not be read about at all. The Council Correspondent, operating on the theory, asks commiseration and points out that:

His faults can never hurt another's ease;
His crime, at worst, a bad attempt to please.
Thus, all respecting, he appeals to all,
And by the general voice will stand or fall.

The first notable thing about the 132d Council Meeting was the food. Usually only Bursar Horace S. Ford is privy to such service as the Council received that night. Either Walker has hired a new cook, or the management has invested in a cook book.

So the evening got off to a flying start, gaining enough momentum to last through the report submitted by Orville B. Denison, '11, on his just-concluded trip to clubs and high schools in the South and near-West. This was practically the only item of business on the evening's agenda, and Mr. Denison, sensing that agreeable things were to follow, confined himself to facts and figures. It was gleaned that during his thirty-three day peregrination he covered exactly 5,528 miles, met with 476 Alumni of twenty-two cities, and spoke in fifteen



MARINE MUSEUM

A special exhibition of ancient and modern navigation instruments has been assembled by the Department of Naval Architecture and Marine Engineering. Above is shown the entrance to the Museum and, at the top, a radio compass on exhibition

schools, addressing thereby "2,800 boys and 1,000 girls."

There being no nominations for term membership on the Corporation, Chairman Prescott announced that the remainder of the program would be in the hands of the undergraduate activity leaders who were present, headed by their President, Ralph T. Joep, '28.

Mr. Joep received the baton from Professor Prescott without losing a stride and, after the expression of a gracious sentiment or two, stated that he would call on different activity heads for a brief résumé of the work they have been doing during the past year. Furthermore, he announced that he would limit each man to three minutes, and what is better, he carried out his commendable intention.

The following twelve men spoke, in this order: Thomas S. Wood, Jr., '28, General Manager of *Tech-nique*; Paul E. Ruch, '28, General Manager of *The Tech*; Ames B. Hettrick, '28, General Manager of *Voo Doo*; John S. Middleton, '28, General Manager of *Tech Engineering News*; Paul A. Johnson, '28, General Manager of Tech Show; C. C. Marshall, Jr., '28, General Manager of the Combined Musical Clubs; Donald E. Perry, '28, President of the Athletic Association; Waldo Keyes, '28, President of the Combined Professional Societies; John P. Bailey, '28, Chairman of the Student Dormitory Committee; Oswald V. Karas, '29, of the Architectural Student Council; E. A. Bianchi, '29, of the Walker Memorial Committee; and H. A. Burnell, '28, Chairman of the Budget Committee.

The Council Correspondent is willing to stand back of the assertion that the Council never had presented to it a group of talks so well and tersely presented, so full of humor as well as fact. So much did the Council appreciate these undergraduates that they roundly applauded the spontaneous assertion of C. Frank Allen, '72, that the talks were a tribute to the training given by the Institute.

President Joep concluded with a description of Field Day and its novel and successful glove fight. Later he



Boston Evening American

LT. ALBERT F. HEGENBERGER, '17, AND
MRS. LINDBERGH

The flyer presented flowers to Mrs. Lindbergh on behalf of the Boy Scouts, during her recent attendance at the Boston Convention of the National Education Association. Lt. Hegenberger piloted the plane which carried Mrs. Lindbergh to and from Detroit

was queried by Professor Allen on a touchy matter, and so quick and well turned was his reply and so appropriately impertinent that the Professor was hushed, completely hushed. This, along with the classic description of the genus Brown-Bagger by John Bailey, constituted the evening's two rarest items.

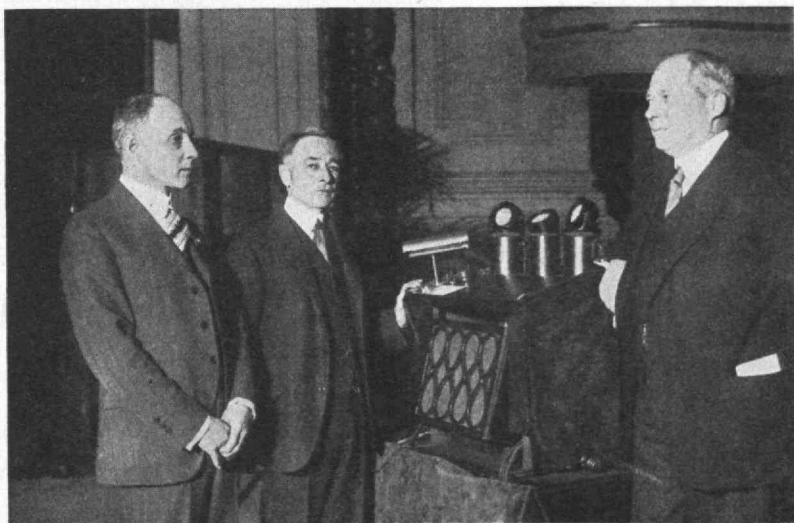
Unreservedly, it can be said that this meeting was informative and enjoyable. It was one of the best things the undergraduates have done this year, and the same may be said of the Council.

Fifty members and guests were present.

Physicists vs. Chemists

CHEMISTS were accustomed to sit as interested spectators on their own side of the boundary line while on the other side physicists struggled with the embarrassing question, "What are atoms made of?" Physicists, however, soon began to encroach on the chemists' bailiwick and then the chemists commenced to take an active part in the development. Today it is sometimes difficult to tell a chemist from a physicist. Nevertheless, Professor Miles S. Sherrill, '99, of the Institute's Department of Chemistry, in presenting the final Society of Arts Lecture of the 1927-28 series on March 9, 10, and 11, declared, "I now tremble as I cross this no man's land into the realm of physics."

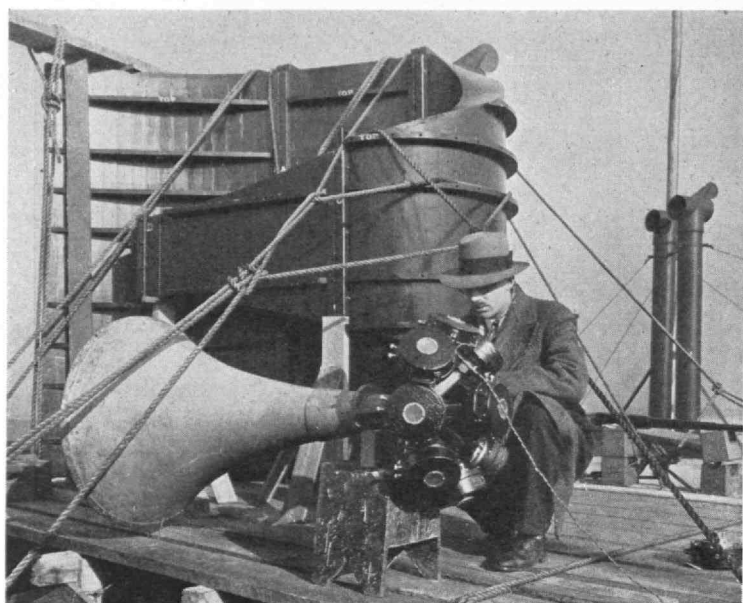
Atoms and molecules, he said, can now be



Wide World

MEETINGS ACROSS THE SEA

Frank B. Jewett, '03, J. J. Carty, and Bancroft Gherardi standing before the Radio-telephone equipment which connected a New York meeting of the A. I. E. E. with a London meeting of the I. E. E. See page 336



GARGANTUAN VOICE

Nine new type loud-speaker units attached to a single borm. On the roof of a building in Manhattan, tests were made of its ability to bellow across the Hudson. See opposite page

counted with more precision than the population of a great city like London. Neither the existence nor the reality of atoms is doubted any longer "for it is possible to determine the number of molecules in one gram molecular weight. This huge number is 606.2 sextillion."

By means of a moving picture the audience was shown the Brownian motion of colloidal mercury particles as seen through an ultra-microscope. These sub-microscopic particles appeared as bright spots which exhibited a lively chaotic motion, caused by collisions with the molecules of the water in which they were suspended. Study of such motion makes possible the counting of molecules.

Later in the lecture, Professor Sherrill demonstrated a device for counting alpha particles, or electrons, ejected at high speed from the unstable atoms of radio-active elements during their spontaneous transmutation. This device, known as a Geiger counter, is a sharp needle in circuit with a high potential, so that a pulse of current passes when the air in its neighborhood is ionized by an alpha particle, or an electron. An amplifier and loud speaker served as detector. A series of distinct raps was heard throughout the entire hall when the lecturer's wrist watch with its radium-painted dial was held near the counter. "These raps," he explained, "are not from a spirit world, but nevertheless from another world, namely the world locked up within the atom. These electrons and alpha particles are the only messengers we have from this world." Attention was called to the use of this instrument in medical science for measuring the rate of blood flow. Dr. H. C. Blumgart of the Boston City Hospital "injects a trace, one quadrillionth of a

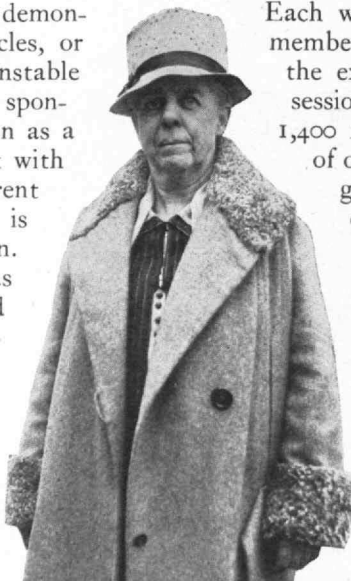
gram, which is about three million atoms, of radium-active deposit in the arm of a patient. Then with the aid of the Geiger counter he measures the time taken for it to be carried to the heart and then through the lungs back to the heart and on to a point in the other arm corresponding to the original point of injection. He is thus able to measure the rate of flow of blood through the lungs. Such studies hold far reaching possibilities for research in diseases of the heart."

Some interesting experiments were shown with nitrogen activated by bombardment with high-speed electrons. The "active" nitrogen in reacting with other chemical substances emitted energy directly in the form of "cold" light, thus producing beautiful color effects.

Professor Sherrill spoke of the significance of the 900,000 volt cathode ray tube recently developed by Dr. William D. Coolidge, '96, (See page 333) of the General Electric Company. He mentioned that this achievement promises the possibility of reproducing in the laboratory all of the most powerful radiations now obtained from radium. A great advantage of this procedure would be that the radiations could be controlled by a switch, whereas the rays of radium are continuous, and constant protection is necessary.

A. I. E. E. — I. E. E.

GOOD morning, Mr. Page," said Bancroft Gherardi, President of the American Institute of Electrical Engineers, in New York one February morning. "Good afternoon, Mr. Gherardi," replied Archibald Page, President of the (British) Institution of Electrical Engineers, in London that same afternoon. Each was on the speaker's rostrum before the members of his society in convention assembled; the exchange of salutations opened the joint session of the two organizations held with only 1,400 miles of land telephone and 6,100 miles of overseas radio circuit to bind the two together. Harry P. Charlesworth, '05, plant engineer for the American Telephone and Telegraph Company, having previously warned the principals that all was ready, stood by to see that the experiment ran smoothly. Mr. Gherardi in New York asked Mr. Page in London to preside over the dual meeting, to which Mr. Page replied by calling upon Mr. Gherardi for a brief speech. Following him in turn came Frank B. Jewett, '03, President of the Bell Telephone Laboratories, Inc., and Colonel T. F. Purves of the British Post Office. When speeches finished, General John J. Carty, Vice-President of the A. T. and T. Company, moved a resolution calling attention to the possibilities for the building of international



MARION TALBOT, '88

The Dean of Women, University of Chicago, has become Acting President of Constantinople Women's College until June

Keystone

good-will in this and similar meetings. The motion received a felicitous seconding from Sir Oliver Lodge in London, and was passed by two houses before the meeting adjourned. Thus it was that the A. I. E. E. and the A. T. and T. Company went the Technology Phantom Dinner of 1926 one better.

All this was but a single part of the five-day Winter Convention of the A. I. E. E. On the preceding evening a few hours were set aside for the presentation of its Edison Medal to Dr. William D. Coolidge, '96, by Dr. Michael Pupin of Columbia University, and of its John Fritz Medal to General Carty by Robert Ridgway, engineer in charge of the New York subway construction, and recent Aldred lecturer at Technology.

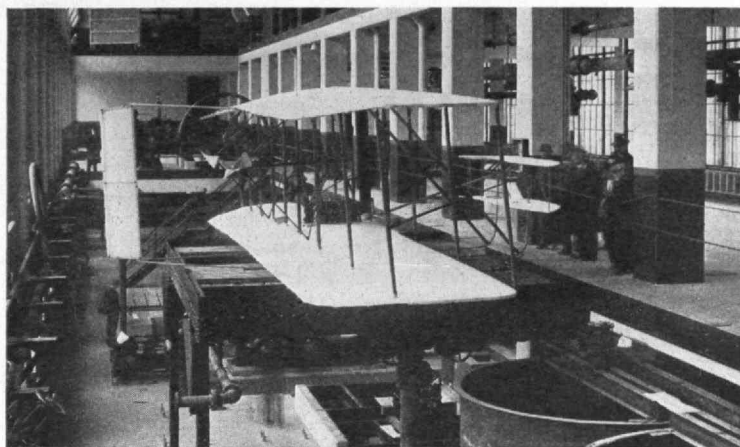
Many Technology men participated in the regular business sessions of the Convention; among them were: Farley Osgood, '97; Professor Waldo V. Lyon, '05; Ernst A. Guillemin, '24; Philip L. Alger, '15; Robert H. Park, '23; Stuart L. Henderson, '10; Carl R. Soderberg, '20; Edward R. Wayne, '26; Mahlon L. Henderson, '27; Otto B. Blackwell, '06; Karl W. Waterson, '98; and William E. Mitchell, '03.

In accepting the Edison Medal, Dr. Coolidge disclosed that he and his associates had developed a new cathode ray generator (see page 333), three times more powerful than the tube described in the December, 1926, issue of *The Review*. The new tube, said Dr. Coolidge, "... opens up new vistas of alluring scientific possibilities. It has tantalized us for years to think that we could not produce in the laboratory just as high speed electrons as the highest velocity β -rays of radium. ... According to Sir Ernest Rutherford, we need only about 3,000,000 volts to reproduce the high-speed β -rays." His new equipment allows him to use 900,000 volts.

Just as in the old tube, a hot tungsten filament gives rise to electrons which are impelled across the almost gas-free space by the terrific force exerted upon them by 300,000 volts of electricity. In the old tube the electrons would then have been fired through a thin nickel window to emerge as full-fledged cathode rays; but in the latest development they pass on into a second glass chamber where they are kicked ahead by another 300,000 volts, and on into the third for still another impulse. At each stage the electrons experience a tremendous acceleration until, when they pass out through the metal window in the last stage, they are traveling 175,000 miles a second — almost the speed of light.

Fifteen Watts of Sound

THE chemist who must discover an antidote for his new poison gases or the researcher who must devise a means of protecting himself from the incalculable effects of powerful cathode rays have



WRIGHT BIPLANE

Perhaps if the Wright-Smithsonian controversy is not settled (see page 338), the original Wright machine might again be entrusted to Technology as it was in 1916 when the new buildings were dedicated

nothing on Edward C. Wentz, '14, of the Bell Telephone Laboratories, Inc. He and A. L. Thuras have developed a new loud speaking telephone unit capable of belching fifteen watts of undistorted sound into the air, three times as much as heretofore has been possible with a single unit. Experts whose business it is to measure such things say that an average man shouting delivers, on the average, 400 millionths of a watt of sound power. Therefore, Dr. Wentz can, with a single unit, shout as loudly as 37,500 men working in unison — with a much better chance of making himself understood. Recent tests atop a building in lower Manhattan, using nine of the new units attached to a small horn, were reported successful by observers on the New Jersey shore of the Hudson.

The receiver has a diaphragm which vibrates without flexing as nearly like a rigid plunger as possible, a feature worked out from previous studies made by Henry C. Harrison, '13, and Joseph P. Maxfield, '10. Unlike most of the instruments now in use, the electromagnetic forces act upon a coil fastened to the diaphragm instead of upon that member itself. It operates with an unusually high efficiency for devices of this sort,

that of the experimental unit attaining fifty per cent, which means that one-half of the impressed electrical energy is converted into sound. An efficiency of one per cent is about all that can be obtained from an ordinary radio reproducer of the type used in the home. Almost simultaneously with the announcement of the new loud talker came word that Dr. Wentz and E. H.

Bedell had discovered, as the result of recent tests, that multiple-layered walls are the most efficient absorbers of deep musical sounds. It is thus that he has placed himself in a position to shield the public from a misuse of his other development. It must, however, be said in fairness to Dr. Wentz that the loud speaking telephones were for use as parts in the "Movietone" and the "Vitaphone" systems and not as auxiliaries to apartment house radio receiving equipment.



"Kitty Hawk" Machine

IN the hope that the Science Museum of South Kensington, London, may prove to be but a temporary resting place for the original biplane flown by the Wrights, Dr. Charles G. Abbot, '94, recently made Secretary of the Smithsonian Institution, has a new offer. In his letter to Orville Wright he seeks to have an inscription placed on the plane that will meet with Mr. Wright's approval, so that he will permit it to be placed permanently in Washington in "the National Valhalla of Aëronautics, where rest so many planes that have made aviation history." Also the inscription on the Langley airplane would be reduced to ten words as follows: "Langley Aërodrome — The original Langley flying machine of 1903, restored." At present the label of the Langley machine as recommended by an impartial committee in 1925 describes it as "the first heavier-than-air craft in the history of the world capable of free, sustained flight under its own power, carrying a man."

Dr. Abbot states that he believes "that label to be just, as do my colleagues, and cannot think anybody would wish to have us recant falsely." But he continues, "If Mr. Wright will openly state in a friendly way that he appreciates that the Smithsonian Institution honestly believes the Langley machine of 1903 was capable of sustained free flight under its own power carrying a man and that it now removes that public statement, not in confession of error, but in a gesture of good-will for the honor of America, then I am willing to reduce the Langley label. . . ."

Orville Wright, however, is reported as contending that the mere changing of a label is not enough. He would have a judicial, impartial authoritative investigation of the Smithsonian's assertion (often made in its widely-circulated publications) that Langley invented the first man-carrying engine-driven airplane that could fly.

The Langley machine over which this controversy flares up anew was the culmination of a long series of painstaking experiments, which Dr. Samuel P. Langley began before he became Secretary of the Smithsonian. He was the first to conduct systematic scientific research to establish the principles of aerodynamics and after nine years of patient experimenting he built a model tandem monoplane, which was about the size of a condor and which was driven by a steam engine. In 1896 this machine was catapulted from the top of a houseboat on the Potomac and flew freely for 3,000 feet, coming down only because Langley had purposely limited the amount of water in the little boiler.

Later Congress appropriated \$50,000 to which the Smithsonian added \$20,000 to build a man-carrying machine according to his principles. Its engine was designed by Langley's assistant, Charles M. Manly, and, like the model, it was launched by means of a catapult over the Potomac on September 7, 1903. Instead of vaulting into the air, however, it plunged headlong into the river. Manly was fished out while the crowd on the river's banks made merry. Repairs were made and a second unsuccessful attempt took place on December 8, 1903. Nine days later, December 17, 1903, the Wright

Twenty-five Years Ago in The Review

Issue: April, 1903

EDITORIAL COMMENT: "Directly or by implication, the President argues that a removal of the Institute, forced upon it more or less by the encroachments of trade and by the consequent enhancement of the value of the land in the vicinity of Copley Square, will in the end prove to be the wisest possible step. It will permit of the erection of buildings worthy of our justly famous school of architecture; . . . it will enable the Institute to deal adequately with the important problem of 'furnishing to its students such facilities as will make the student life economical and simple, yet attractive to rich and poor alike.'"

"That The Review believes in the assumption, by the Institute, of greater responsibility for the social and moral life of the students, those who have read its editorials need not be told. . . . In order that this problem may be dealt with wisely and adequately, it seems necessary for the Institute students to be gathered together in dormitories where they may be under the control of the authorities, and where, better still, they may be under the much more effective influence of student opinion. . . ."

FACULTY NOTES: Committees have been appointed in connection with the preparation of the exhibit for the Louisiana Purchase Exposition at St. Louis; on the approaching meeting of the National Education Association at the Institute; and "to report on the maintenance of a General Course in succession to or in continuance of Course IX. . . ."

"At the annual reunion of the Bowdoin College Alumni Association, February 18, Professor Alfred E. Burton was reelected President of the Association."

ON April 8, 1903, the Rumford Medal of the American Academy of Arts and Sciences was presented to George E. Hale, '90, Director of the Yerkes Observatory, "in recognition of his astrophysical discoveries and specifically, of his invention of the spectroheliograph. . . ."

THE annual meeting of the New England Intercollegiate Athletic Association was held February 21 at the Copley Square Hotel. . . . Dropping the bicycle race was opposed by Brown, Wesleyan, Trinity, and Maine on the ground that it was not fair to those who expected to win points in the bicycle race this spring. . . ."

brothers made their first successful flight at Kitty Hawk, N. C.

In 1914, the late Dr. Charles D. Walcott, who preceded Dr. Abbot as Secretary of the Smithsonian, engaged Glenn H. Curtiss to test the Langley machine conclusively over Lake Keuka, at Hammondsport, N. Y. New launching gear, an undesirable extra weight of 350 pounds, was added but Mr. Curtiss stated that he flew the machine "in its original condition with its original motor and propellers with no alterations." That the machine did fly for a few seconds at a time with the original motor under the guiding hand of Mr. Curtiss is certain. Later, with the substitution of an eighty-horsepower Curtis motor it covered half a mile.

Mr. Curtiss's statement was challenged by Mr. Wright who contended that the machine was not flown in its "original condition," that wings of different camber, different area, and different aspect were substituted, and that other changes were made besides the mere addition of floats.

The point now at issue between the Smithsonian and Mr. Wright is one of purely historical interest for no one would again build an airplane after either Langley's

Ten Years Ago in The Review

Issue: April, 1918

AT PRESS TIME the busy Editor's statistics showed 2,070 Alumni in war service. Of these, 463 were abroad, 1,303 were officers, and 170 were in officers' training camps. The Roll of Honor numbered twenty-four.

SMUGGLING 21,000 ounces of platinum from the vaults of a bank in Petrograd down the Nevsky Prospekt to the Nikolai station, thence by train across Russia and Siberia to Vladivostok and by steamer to Japan, Fred W. Draper, '95, deposited his \$2,000,000 cargo and relaxed for the first time in a month and a half. It was easily the greatest adventure story of the war carried by The Review.

WAR ITEMS: The War Service Auxiliary in two months had sent "to the Technology Bureau in Paris, 768 articles; 2,445 articles . . . to the Italian War Relief Fund of America; more than fifty garments . . . to the Commission for Relief in Belgium." . . . Letters from Captain Mitchell Mackie, '05, who "stepped foot on French soil within one hour after the landing of the first American soldier," were reprinted. . . . George C. Whipple, '89, just returned from Russia, emphasized the importance of the engineer in the war. . . . Professor George Owen, '95, was announced as the architect of a new fleet of concrete ships. . . . George C. Gibbs, '00, had arrived in France to succeed Van Rensselaer Lansingh, '98, as Director of the Technology Bureau. . . . The Director of Recruiting Service for the United States Shipping Board was Henry Howard, '89.

FREDERICK H. NEWELL, '85, "Organizer and Director of the United States Reclamation Service," who "carried water from a mountain wilderness to turn the waste places of the desert into homes for freemen," had been awarded the Cullom Geographical Medal. . . . Gerard Swope, '95, then Vice-President of the Western Electric Company, had been decorated by the Japanese Government with the Fourth Order of Merit of the Rising Sun.

FROM AN EDITORIAL: "Technology, naturally, has not been greatly disturbed over the court decision which declared illegal the present arrangement with Harvard for the spending of the McKay money, usually prematurely called the McKay millions. The decision will cost the Institute little in money and less in embarrassment. . . ."

design or that of the "Kitty Hawk" machine. It is to be hoped, however, that Dr. Abbot's courteous attempt to induce Mr. Wright to bring his original plane back to the United States National Museum may in time meet with favor. Regardless of the possibilities of the Langley machine the indubitable fact remains that the Wright machine was the first airplane to carry man in free, sustained flight.

The Ancient Mariner and the Modern

WILBUR GLENN VOLIVA would have saved himself futile effort in his pilgrimage to prove the world is flat had he come to Technology to study the very interesting collection of navigation instruments now on exhibition in the Marine Museum of the Department of Naval Architecture and Marine Engineering.

Time to the total of four centuries is represented in the instruments gathered for this exhibition which illustrates the development of instruments of navigation from the cross-staff of Columbus to the modern gyro-compass and radio direction finder. And if Mr. Voliva still

doubted that the world resembles an orange and not a griddle cake, he could at least have found the most modern devices for plumbing the mythical depths beyond the abrupt precipice at the "edge of the world." A Kelvin Sounding Machine or a modern fathometer would tell him all he wants to know about depths.

There is evidence enough in the exhibition to show that 400 years ago some mariners believed, like Mr. Voliva, that if one voyaged far enough he would sail off the end of the world into space. The growth of knowledge is seen, however, in the development of instruments, the evolution from the cross-staff to the sextant, from wood to steel and brass, from guess work to definite knowledge of geography.

Many of these old instruments, the astrolabe, a Chinese compass, early quadrants, and even the first of the sextants, were made of wood, masterpieces of workmanship and remarkably accurate for their day. In sharp contrast are the instruments of this age, machine-made devices of amazing precision, virtually infallible in operation, designed to meet the exacting demands of modern navigation.

Such instruments are the gyro-compass and the gyro-pilot which take the place of the old magnetic compass and the helmsman in the pilot house of a modern vessel. The gyro-compass is not subject to the influences which often caused errors in navigation with the magnetic compass. This electrically driven device not only gives a true North reading, but controls repeaters which are located in various parts of the ship.

The exhibition also includes an earth inductor compass of the type used in recent trans-oceanic flights. It is mounted on a miniature airplane to illustrate its operation in flight.

Breathing Rocks

SEVENTY years ago the famous Bunning Mine in Schuylkill County, Penna., caught fire and all efforts to smother the blaze have proved futile. Soon a further attempt is to be made, and, in this connection, the theory of Professor W. Spencer Hutchinson, '92, Head of the Department of Mining and Metallurgy, that air is inhaled by apparently impenetrable rocks far underground, has been widely quoted.

Contrary to popular belief, the most stubborn mine fire is not the burning of timbers, but the fire that burns in coal or ores containing certain metals. It is this latter type of blaze which has been raging in the Bunning Mine since before the outbreak of the Civil War. Without success the workings have been flooded with water, entrances to the various pockets have been sealed, and water mixed with sand and mud has been pumped in to fill all crevices where air might enter. More than 10,000,000 tons of anthracite are still rendered inaccessible.

Tests made by Professor Hutchinson on samples of gases exhaled from rocks in a deep mine during a period of low barometric pressure showed that they contained the same amount of helium as the atmosphere. It is his idea that the air inhaled by the rocks supplies the oxygen for combustion which keeps on in spite of the shutting off of all apparent sources of air supply.

The amount of air "breathed" by the rocks varies according to barometric pressure, Professor Hutchinson explains. During periods of high pressure he believes fire far below the surface may gain headway, while during low pressure the burning area smoulders, holding its intense heat despite flooding and sealing.

In support of this, he cites a mine in Butte, Mont., which is being operated today despite the fact that deep in the heart of the workings a fire, completely sealed in what might be compared to a huge concrete cubicle, still burns. When mining engineers found they could not extinguish this fire, which has gone on for many years, they began building a great concrete wall on all sides of the burning section. The fire burns within a huge concrete cell while miners work nearby.

More Lectures

ZUIDERZEE'S drainage, electrical prospecting in Canadian mines, school ventilation, fisheries and fish culture in Russia, civil engineering, airplane engines, poisoning — these were the subjects dealt with during March by four outside lecturers who followed the third Aldred Lecturer of the 1927-28 series, Robert Ridgway, chief engineer for the Board of Transportation of the City of New York. Mr. Ridgway spoke February 17 on the problems of a transit system which last year carried three billion passengers and gave his audience the advice: "Eat up all the responsibility you can digest. It makes life interesting."

The March lecturers were respectively: Dr. Cornelius Lely, President of the Zuiderzee Board since 1919; Edward H. Guilford, '12, chief engineer of the Radiore Company; Thomas J. Duffield, '14, executive secretary New York Commission on Ventilation; Professor N. Borodin, formerly Dean of the Department of Fish Culture and Fisheries of the Petrograd Agricultural College; Charles Edward Smith, '00, Vice-President of the New York, New Haven and Hartford Railroad; William F. Joachim of the Advisory Committee on Aeronautics at Langley Field; William F. Boos, medico-legal adviser to the United States Government, and the Commonwealth of Massachusetts.

Dr. Lely, a member of the Royal Academy of Sciences of Amsterdam and sometime Governor of the Colony of Surinam, first began to study the problem of draining the Zuiderzee in 1886 and appropriately his two lectures were entitled, "Holland's Fight with the Waters." For many years he was the Dutch Minister of Public Works.

Professor Borodin in his four lectures discussed the organization and regulation of the fishing industry in Russia and the methods of preparation and marketing of the product, as well as fish culture and protection. He was Commissioner of the Russian Fisheries at the World's Fair in Chicago and in recent years has acted as consultant to the Connecticut Department of Conservation in its study of the shad. At present he is attached to the staff of the American Museum of Natural History. His lectures, as well as the one by Mr. Duffield on "The Present Status of School Ventilation" were given under the auspices of the Department of Biology and Public Health. Both Mr. Smith and Mr.

Joachim appeared before meetings of student professional societies, — the former before the American Society of Civil Engineers, the latter before the Society of Automotive Engineers. Dr. Boos spoke at a luncheon meeting of the Faculty Club.

World Engineering Congress

LATE in October of next year there will meet in Tokyo, Japan, representative engineers from all parts of the earth for a two weeks' conference. This World Engineering Congress, as it is entitled, has been called by the Kôgakkai or Engineering Society of Japan "to discuss various engineering subjects in anticipation eventually to initiate and promote the international coöperation in the study of engineering science and problems in all its branches, and to cultivate a feeling of brotherhood among the engineers of the world." So reads the English version of the preliminary announcement which the Kôgakkai sent out in the Japanese, the French, the German, and the English languages.

Administration of America's participation in the event is in the hands of a Committee of Eighty, headed by Secretary of Commerce Herbert Hoover as honorary chairman and Dr. Elmer A. Sperry as Administrative Chairman. Among those selected for membership on the Committee of Eighty are: President Samuel W. Stratton; Edward Dean Adams, '69; John R. Freeman, '76; George W. Fuller, '90; Allen Hazen, '88; Dr. Frank B. Jewett, '03; Dr. Arthur D. Little, '85; Oscar C. Merrill, '05; William C. Potter, '97; Calvin W. Rice, '90; Alfred P. Sloan, Jr., '95; George T. Seabury, '02; Gerard Swope, '95; Maurice Holland, '16; Professor Dugald C. Jackson, head of the Institute's Department of Electrical Engineering; Professor Elihu Thomson and Howard Elliot, of the Technology Corporation; Professor Arthur E. Kennelly of Harvard University and William E. Wickenden of the Society for the Promotion of Engineering Education, both former professors in the Department of Electrical Engineering.

Technology Etchers — and Aquatinters

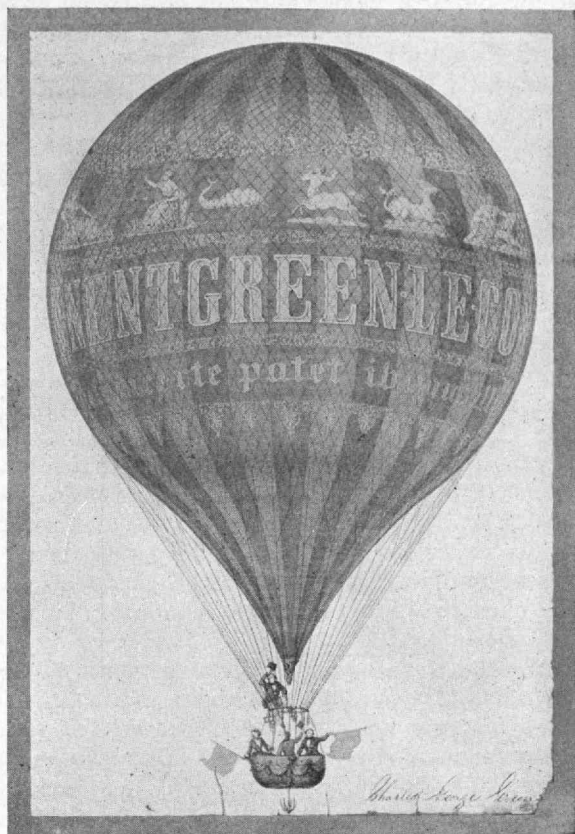
SIXTH in The Review's series of cover panels reproduced from work by Technology etchers comes "A Hong Kong Canal Boat," an aquatint by John Taylor Arms, '11, whose line etching, "Cobwebs," appeared in December, together with a biographical note. An aquatint is not, strictly speaking, an etching, although the biting of a copper plate with acid is the basis for both processes. In most of Mr. Arms's aquatints the structural lines of the design are bitten into the plate by the usual line etching process after which the protective "ground" is removed and the plate recovered with finely-powdered rosin. When the copper is again exposed to the acid, it is attacked in the interstices between rosin granules only, the resulting lines giving to the finished print a tone of exceedingly fine texture. By successively "stopping out" with varnish, first the lighter tones and later the darker, the composition is built up. The rosin ground is then removed and, unless retouching is to be done, the plate is completed.

DESCRIPTION DES EXPÉRIENCES DE LA MACHINE AÉROSTATIQUE

*The Invention of the Balloon and the Many
Thrills of Eighteenth Century Ballooning
as Described in the Vail Collec-
tion of Aëronautica Owned
by the Institute Library*

BY KATHARINE MAYNARD

Vail Librarian



MR. GREEN (WAVING PLUG HAT)

What equals in Air the delights of Ballooning!
If you'd rise in the world and wish to be seen;
If you'll just take a trip to the Man that's the Moon in,
I'd have you apply to the famed MR. GREEN.
Oh that is a station that's higher than Princes;
The Princes of earth are not there to be found,
There's nothing that's frightful, but all that's delightful,
As you sail through the air and return to the ground.
Hark! follow, hark! &c.

*[It is recorded that Charles G. Green made 500 successful ascents
and died in his bed at the age of eighty-four]*

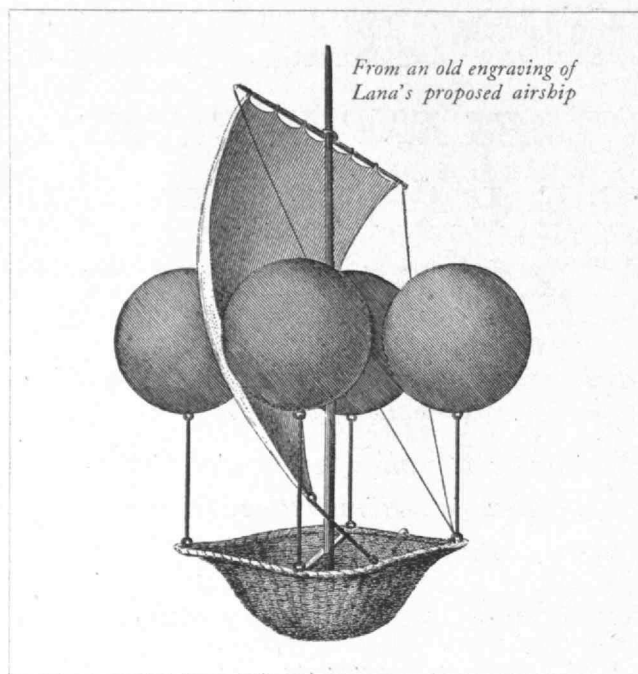
FRANCIS LANA, a Jesuit, was the first person, according to all available records, who designed an airship embodying a semblance of sound scientific theory. In the sixth chapter of his *Prodromo*, published at Brescia in 1670, we find the earliest recognition of the lighter-than-air principle with full details of the design proposed. He intended to construct a vessel suspended from four spheres of thin copper, exhausted of air, which, owing to the difference between their weight and the weight of the displaced air, were calculated to sustain the additional weight of the boat. (See illustration on following page.)

Lana's treatise, together with innumerable other items of aëronautica, was rediscovered during a recent study of the aëronautical material which came into the possession of the Institute Library in 1912 as a part of the Vail Collection, presented to the Institute by the American Telephone and Telegraph Company, and named in honor of its then-President, Theodore N. Vail. It comprises some 30,000 books and pamphlets, chiefly

on electrical engineering, and constitutes one of the leading libraries of the world in that field. Over a thousand books and pamphlets dealing with early aëronautics were included in this gift, as well as a large number of prints, broadsides, and clippings, of unusual interest as a contemporary record of the conquest of the air, following the invention of the balloon in 1783. Since the original collector, an English inventor named George Edward Dering, died in 1911, he did not gather many records of the successful airplane, though the collection abounds in fantastic accounts and illustrations of attempts that failed, from the unreliable appendages of Icarus down through the centuries of speculation and experiment from which the modern art of flying has developed.

The collection contains records of the many early experiments centering around the construction of "wings," which evinced imaginative power if not scientific insight. As one of the first historians of aëronautics points out, these early inventions usually "destroyed either the reputation or the lives of the experimenters."

But Lana was on the right path, although it was more than a century later that aërial navigation became an accomplished fact with a series of successful ascents in the year 1783 by balloons of two types. In the first of these, constructed by the Montgolfier brothers, heated air from a fire of straw was the levitating medium, and gave to their invention the name of "fire-balloons." They were also popularly called *Montgolfières*. The first public demonstration (without passengers) was made at Annonay on June 5, with a balloon thirty-five feet in diameter, which rose 1,000 feet and traveled more than a mile. When this astonishing news reached Paris, the inventors were invited to repeat their experiment before the Court, and an even more successful demonstration took place at Versailles in the presence of the royal family on September 19.



On this occasion a sheep, a duck, and a cock had the honor of being the first aerial passengers. Their supposed sensations are recorded in a yellow pamphlet, entitled, "Dialogue entre le mouton, le canard, et le coq, qui, les premiers, ont voyagé dans le globe aërostatique de M. de Montgolfier," which witnesses to the fright of the sheep, the indifference of the duck who "could use his wings if necessary," and the high emotion of the cock who was proud to share in a scientific experiment.

Developments now followed in rapid succession. After a series of ascents in a captive balloon, Pilâtre de Rozier, accompanied by the Marquis d'Arlandes, rose over Paris in a free balloon, crossed the Seine, and traveled in the air for twenty-five minutes. The document witnessing to this exciting event is of special interest to us because listed among the signatories we find the name of Benjamin Franklin.

The Montgolfiers were sons of a paper manufacturer at Annonay, the business of whose ancient house is still advertised in a periodical currently received in the Institute Library. Before their achievements with the balloon they were entirely unknown to the scientific world, although innumerable *memoirs*, *rappports*, and *dissertations* soon carried their fame to the academies of all Europe. The Library has copies of many of these pamphlets, as well as of the official report made to the French Academy at its meeting on December 23, 1783, when it was voted "that the annual prize of 600 livres, founded by an anonymous citizen for the encouragement of science and art, be awarded for the year 1783 to MM. de Montgolfier.

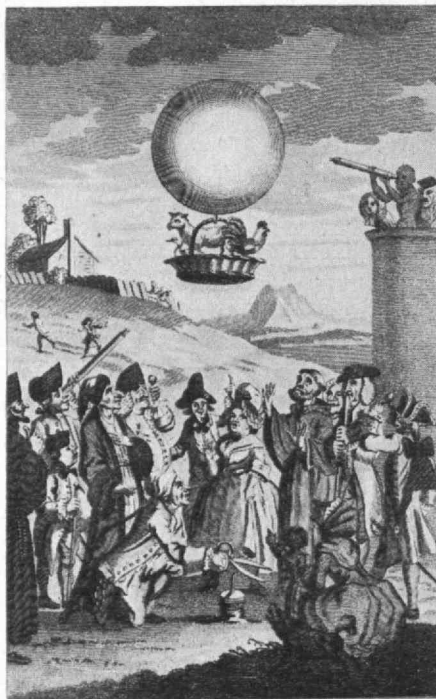
Another series of papers shows that an almost simultaneous development under scientific auspices was meanwhile taking place in the "air-balloon," or *Châlière*, so-called because of its design by the physicist, M. Charles, and its employment of hydrogen gas or "inflammable air" for inflation. Successful ascents were made without passengers during the month of August, and on December 1, barely ten days after the ascent of de Rozier in the fire-balloon, M. Charles and one of the Roberts brothers, who had built the balloon, ascended from the Tuileries and traveled twenty-seven miles to Nesle, making a new record for distance, height, and control.

The promoter of these experiments was M. Faujas de Saint-Fond, afterwards professor of geology at the Musée d'Histoire Naturelle, whose *Description des Expériences Aërostatiques* was published by "Privilege de l'Académie" in 1784, and followed by a treatise on the construction and operation of balloons and a second *Suite des Expériences*, which taken together form, in effect, the first history of aëronautics. Copies of all these writings in several editions and translations are included in the collection.

The oldest English book in the collection is *The Air Balloon, or a Treatise on the Aërostatic Globe lately invented by the celebrated Monsieur Montgolfier of Paris*, published anonymously in 1783, and said to be the first aëronautical work printed in England. Even more rare, though of later date, is the first book printed in this country, *A Treatise on the Art of Flying by Mechanical Means*, by Thomas Walker, a portrait painter of Hull, which was "Printed and sold by Samuel Wood at the Juvenile Bookstore, No. 357 Pearl Street" in New York in 1814.

Published in London in 1785, but quoting freely from original records in both English and French, is the first actual history of the art, *The History and Practice of Aërostation*, by Tiberius Cavallo. Contemporary translations into French and German attest its interest and value, and the Institute is fortunate in possessing all three editions.

Parenthetically, another American besides Franklin figured in one of the most notable of all early aëronautical achievements. This almost forgotten event was the crossing of the English channel in a balloon, on the seventh of January, 1785, by M. Blanchard, a French aëronaut, and Dr. John Jeffries, a physician from Boston, who not only shared the dangers of the enterprise, but defrayed its entire cost. The voyage was made from Dover Castle to the forest of Guines, during



ASCENT

As the *European Magazine* of November 1, 1783, recorded the first balloon ascent with living creatures. See the text

which the intrepid explorers were "suspended two hours over the sea and forty-seven minutes over the land of France," and were obliged to resort to extreme measures in order to effect a safe landing. From Dr. Jeffries' own account of the expedition, as presented to the Royal Society, the following excerpt is quoted:

"We had not now anything left to cast away as ballast in future, except the wings, apparatus, and ornaments of the Car, with our cloaths, and a few little articles; but as a counterpart in such a situation, we here had a most enchanting and alluring view of the French coast. . . .

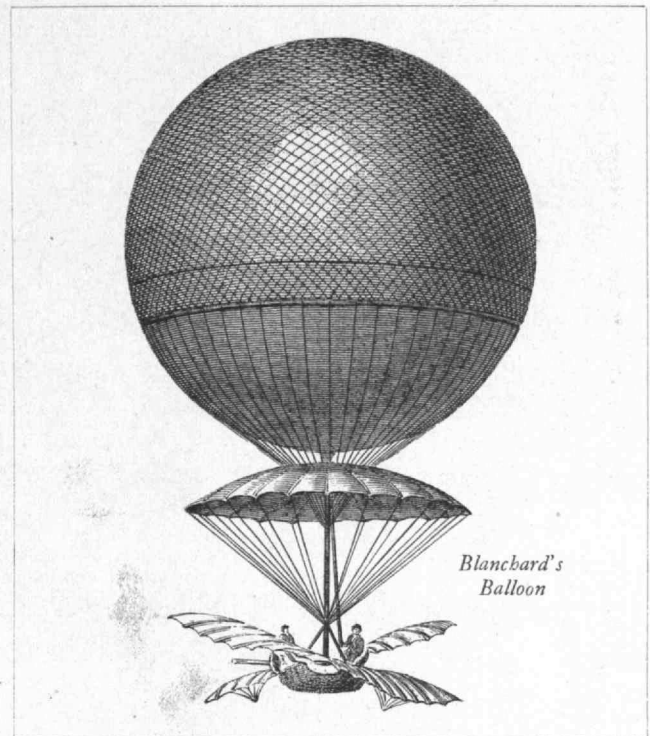
"As we did not yet ascend, we were obliged, though very unwillingly, to throw away our anchors and cords; but still approaching the sea, we began to strip ourselves, and cast away our cloathing, M. Blanchard first throwing away his extra coat, with his surtout; after which I cast away my only coat; and then M. Blanchard his other coat and trowsers. We then put on and adjusted our cork-jackets, and prepared for the event.

"We appeared at this time to be about three-quarters of the distance towards the French shore, and we were now fallen so low as to be beneath the plane of the French Cliffs. We were then preparing to get up into our slings, when I found the mercury in the Barometer again falling, and looking around, soon observed that we were rising, and that the pleasing view of France was enlarging and opening to us every moment as we ascended. . . ."

Progress in "sailing the air" was somewhat slower in England than in France, although there is a record of an ascension from English ground five months after the first demonstration at Annonay, and isolated experiments continued to be made with varying success through the year 1784, including the ascent from Scotland of one James Tytler, on August 27. There is a diary of a balloon excursion made by Thomas Baldwin over the city of Chester on September 8 of that year, but this was not published until 1786; and the introduction of aërial navigation into England is usually attributed to a native of Italy. This "enterprising foreigner" was Vincent Lunardi, the young secretary to the Neapolitan ambassador, who made an extensive voyage in an air-balloon on September 15, 1784, amid the acclaim of the largest crowd ever gathered together in the City of London. Lunardi's account thus describes the scene:

"An affecting, because unpremeditated testimony of approbation and interest in my fate was here given. The Prince of Wales and the whole surrounding assembly, almost at one instant, took off their hats, hailed my resolution, and expressed the kindest and most cordial wishes for my safety and success. . . .

"The interest which the spectators took in my voyage was so great that the things I threw down were divided and preserved, as our people would relicks of the most celebrated saints. And a gentleman, mistaking the oar [which had been dropped] for my person, was so affected with my supposed destruction that she died in a few days. This circumstance being mentioned . . . when I had the



honour of dining with the Judges, Lord Mayor, Recorder and Sheriffs of London, I was very politely requested by one of the Judges, not to be concerned at the involuntary loss I had occasioned; that I had certainly saved the life of a young man who might possibly be reformed, and be to the public a compensation for the death of the lady. For the jury was deliberating on the fate of a criminal whom after the utmost allowance for some favourable circumstances, they must have condemned, when the Balloon appeared, and a general inattention and confusion ensued. The jury was perplexed with considerations on the case, which their curiosity would not suffer them to weigh, and being under a necessity to determine before they departed, they took the favourable side, and acquitted the criminal immediately; on which the court was adjourned to indulge itself in observing so novel a spectacle."

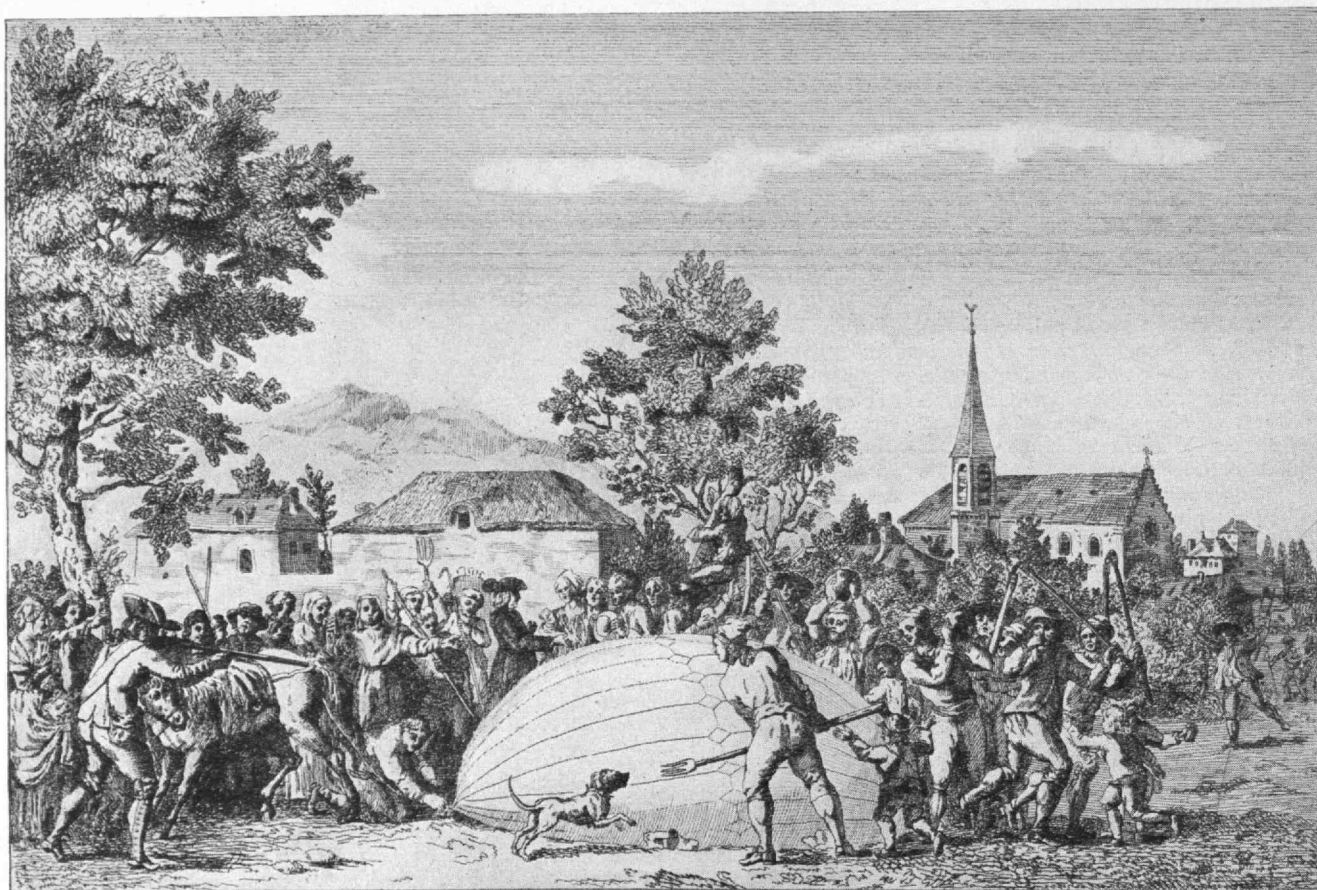
Odes, sonnets, and popular verse in several languages commemorate Lunardi's achievement, and his further adventures are recorded in *An Account of Five Aërial Voyages in Scotland*.

By the year 1785, a *Treatise upon Aërostatic Machines* . . . , "which will not be thought either unentertaining or uninstruction," was published in Birmingham by John Southern, but the favorite form of publication in England seems to have been the diary or personal memoir. "A letter addressed to a female friend by Mrs. Sage, the first English aërial traveler," describes herself as "infinitely better pleased with my excursion than I ever was at any former event of my life." Another diarist asks, "Who, for the sake of science, will voluntarily expose himself to be congealed into a hail-stone or blasted by a thunder storm?" But generally there is repeated testimony to the pleasurable sensations only. Cavallo, in his *History*, writes:



DESCENT

After traveling forty-five leagues, the Montgolfier fell and the "poor country people were exceedingly frightened and astonished"



WHEN IT CAME DOWN

The first ascent of a hydrogen-filled balloon occurred on August 27, 1783, without passengers. Its descent so frightened the peasants that the Cure was obliged to intervene to save it from destruction

"The art of navigating through the air, sought after from time immemorial, has been discovered, and so far improved, within these two years, that above forty different persons have performed the experiment, and not a single instance is known of any person having lost his life in the attempt; and excepting two or three, who have been hurt in consequence of accidents, owing, not to the principle of the invention, but rather to the want of proper judgment, all have unanimously testified the safety, ease, and beauty of the experiment. . . . It is justly questioned whether the first forty persons, who trusted themselves to the sea in boats, escaped so safe."

This admirable record was, however, broken on June 15, 1785, when Pilâtre de Rozier, in an attempt to repeat the achievement of Dr. Jeffries and Mr. Blanchard, started with a companion to cross the Channel from the French side. A double balloon was used for the enterprise, consisting of a *Montgolfière* suspended from an air-balloon, but before reaching the coast the inflammable air took fire, and both lives were lost in a violent and uncontrolled descent. Thus, the first man who had the temerity to ascend in a balloon was (nearly two years later) the first to fall a victim to the invention.

An unsuccessful attempt to cross the Irish Channel had been made in the same year by Mr. Crosbie, who fell into the sea but was rescued. Similar risk and failure attended the effort by Mr. Sadler in 1812, but the feat was finally accomplished by his son, Windham, who crossed from Dublin to Holyhead on July 22, 1817, and published an interesting narrative of the experience.

The notable thing about this accomplishment seems to have been the steadiness of the *aéronaut's* control. To effect this, he writes:

"I, therefore, frequently used the counteracting powers of the Gas and Ballast, at intervals permitting small portions of the former to escape, or casting over a part of the latter, so as to keep the Balloon at an *equal altitude*, by which means my course was a *direct line* across the Channel."

The utility of the balloon for military reconnaissance was almost immediately recognized, an old print showing its employment in the Battle of Fleurus on June 26, 1794, while the success of the French in the Battle of Liège, at the beginning of the French Revolution, is attributed to the observations made from a balloon by expert engineers. Many "scientific expeditions" are also reported, though usually with few results of permanent value. Among the most interesting was an investigation of electrical phenomena undertaken by M. Gay-Lussac and M. Biot in 1804, as reported in the former's *Relation d'un voyage aërostatique*.

The first successful parachute descent from a balloon to be recorded is that of M. Garnerin in Paris on October 22, 1797, although M. Blanchard had made the attempt a few years earlier, sustaining a broken leg in the experiment. Garnerin repeated his demonstration in England in 1802 and a few years later a Polish *aéronaut* demonstrated its practical usefulness in escaping from a

Montgolfière that took fire at a considerable elevation. The great defect of the Garnerin parachute was the violent oscillation experienced during the descent. In 1837 an experiment made with a new type, designed "on unerring principles," resulted in the death of the inventor, Robert Cocking; and the umbrella-shaped machine of Garnerin is substantially the same as that in use today.

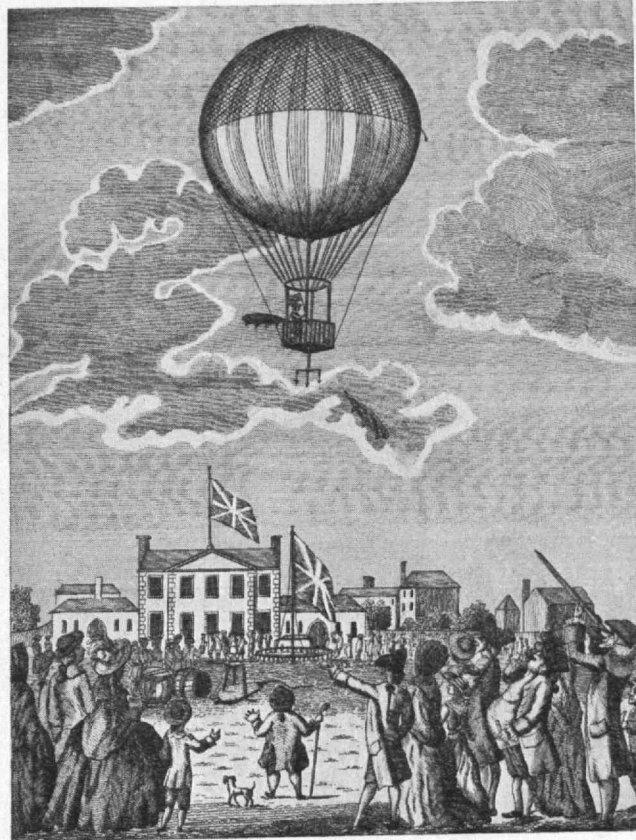
Increasing popular use of the balloon as a spectacle for the entertainment of the public had been meanwhile taking place in England. Broadsides advertising a performance of *The Tempest* at Covent Garden on January 2, 1815, offer the additional inducement of a balloon ascension between the acts, while after a performance of *Macbeth* the next year a balloon was promised to "ascend from the stage over the pit, where it will open and shower down a variety of small balloons, parachutes, and forty pit tickets for the next night's performance." There were also numerous ascensions from Vauxhall and other open-air gardens, and the balloon was a feature of all public celebrations, from the coronation of George IV to the celebration of the Victory at Sebastopol.

Our collection of handbills and posters shows such sensational developments as performances on a trapeze suspended from the car of a balloon, and several ascents on horseback, a project less hazardous and unpleasant to all concerned than might be sup-

posed. One of the riders states that "During this time my horse was close to the fields and bit off tops of the corn as he passed over it . . . and cropped off leaves of the high trees." Benefit performances for public favorites are frequently announced, among which is this one by "Her Majesty's Aëronaut": "Mrs. Graham Begs respectfully to Inform her Best Friends the Public that she Purposes Making her 69th Ascent From the Royal Gardens, Vauxhall, on August 18, 1851, For the Benefit of Herself and Numerous Family." But perhaps of greatest interest is the bill announcing that Mr. Charles Green, the veteran aëronaut, would "make his 500th and last ascent" on September 8, 1852.

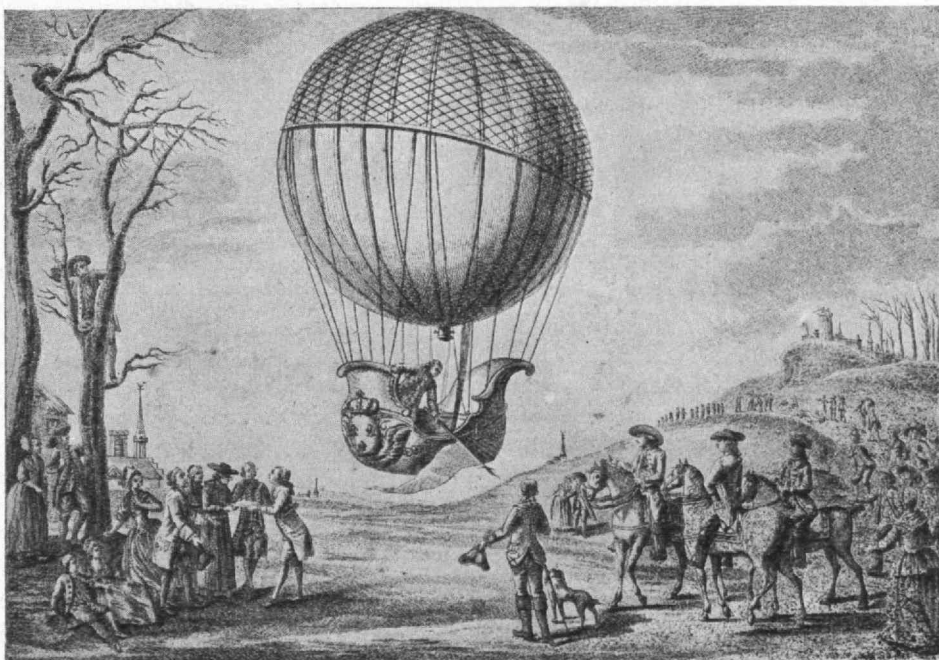
The suitability of coal gas for purposes of inflation, which was England's distinctive contribution to the development of the art, was discovered by this popular aëronaut, and gas companies frequently furnished him the necessary supply without charge in order to promote ascensions in their neighborhood. Without this quick and convenient means of filling the balloon, no such progress would have been possible at this time.

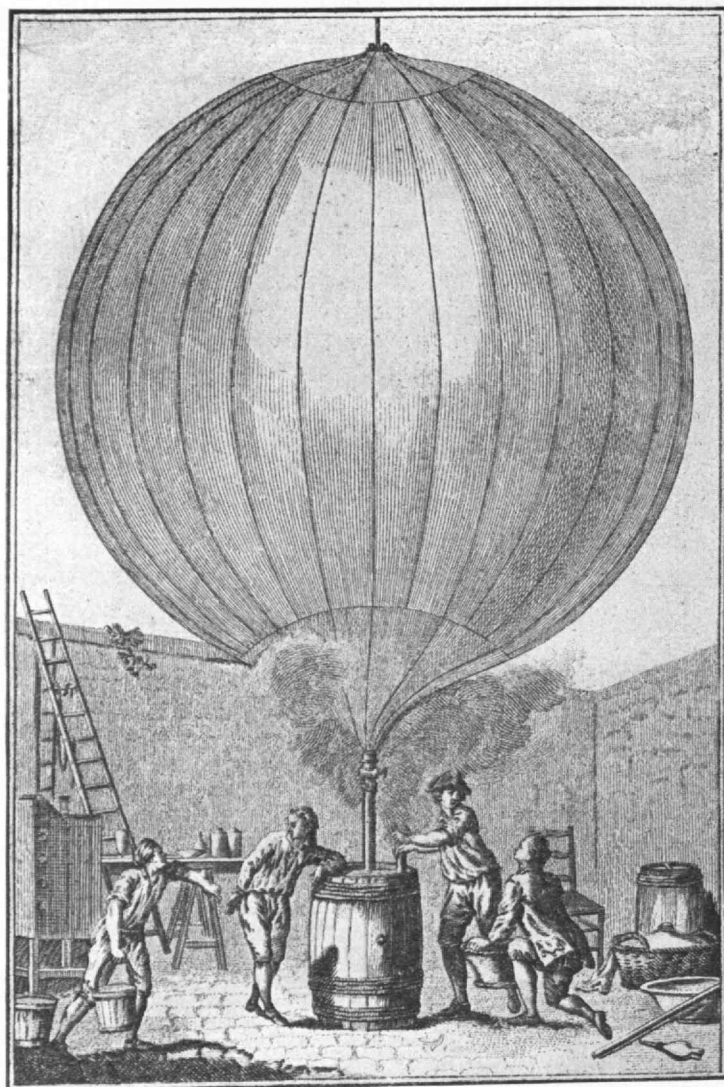
The same Charles Green was builder and pilot of the huge balloon, 60 feet high and 50 feet in diameter, which with three passengers in November, 1836, made the first long aerial voyage overnight, from London to Weilburg in the Duchy



EARLY FLIGHTS

Above: "The ascent of Mr. Lunardi's Celebrated Air Balloon," in England, September 15, 1784. The falling oar causes a tragedy as described on page 343. Below: MM. Robert and Charles presenting their credentials upon arrival at Nesle after a successful flight





*Inflation of the first balloon
designed by M. Charles.
Hydrogen was generated by
the mixing of sulphuric
acid with iron filings, an
operation that extended
from August 23 to
August 26, 1783*



of Nassau. The distance traversed was 500 miles, and the time of the journey, eighteen hours. One of the voyagers, Mr. Monck Mason, describes the adventures in his *Aëronautica*, published in 1838. The unexpected travellers were received by the Germans with an enthusiasm that expressed itself in public fêtes, private entertainment, and Latin verse. The closing couplet of one of the odes on the occasion, which is addressed CAROLO GREENIO, reads:

"Yield, Romans; yield, Greeks; Frenchmen quit the throne;
The crown of Dædalus is Green's alone."

Included in the collection are copies of early English newspapers, such as the *Penny Satirist* of May 26, 1838, and the *Penny Dispatch, Sporting & Police Gazette, & Newspaper of Romance* in a special aëronautical issue in 1841. There is also a copy of Volume I of the first aëronautical periodical, *The Balloon, or Aërostatic Magazine*, edited by Henry Coxwell and issued in 1845. The publications since 1850 are naturally of less interest and rarity, although the clippings constitute a record of contemporary opinion that is perhaps unique.

Fact and fancy are agreeably mingled in the excerpts from magazines of the period, including an unsigned

essay from *Household Words* that may perchance be from the pen of Dickens, and a characteristic sketch by Thomas Hood. The layman's view is well presented by John Poole, Esq., in his *Crotchets in the Air, or an (Un) scientific account of a balloon trip*, from which the following extract is taken:

"I do not despise you for talking about a balloon going up, for it is an error which you share in common with some millions of our fellow-creatures; and I, in the days of my ignorance, thought with the rest of you. I know better now, Tom. The fact is, we did not *go up* at all; but at about five minutes past six, on the evening of Friday, the fourteenth of September, 1838 . . . at about that time, Vauxhall Gardens, with all the people in them, went down! I cannot have been deceived. I speak from the evidence of my senses, founded upon repetition of the fact. Upon each of the three or four experimental trials of the powers of the balloon to enable the people to glide away from us with safety to themselves, down they all went about thirty feet — then, up they came again, and so on.

"There we sat quietly all the while in our wicker buck — baskets, utterly unconscious of motion; till, at length, Mr. Green snapping a little iron, and thus letting loose the rope by which the earth was suspended to us — like Atropos cutting the connexion between us with a pair of shears — down it went with everything on it; and your poor, paltry, little Dutch toy of a town (your Great Metropolis, as you insolently call it,) having been placed on casters for the occasion — I am satisfied of *that* — was gently rolled away from under us."

The Use and Abuse of Statistics

Last summer the author spoke at length on this topic before the Public Health Institute held at Technology

By EDWIN B. WILSON

Professor of Vital Statistics, Harvard School of Public Health

THE fundamental use of statistics is to state facts, particular facts, usually about particular groups of things or of persons. This use is not subject to any very serious abuse except perhaps as some persons may develop a mania for stating all kinds of facts about all kinds of things and thus become nuisances to their associates just like any other driveling chatterboxes. Indeed so common is this love of chatter that one might almost say that, in the main, statistics are neither used nor really abused but merely stated with no ulterior aim, serviceable or otherwise, unless it be to tickle the egotism of the person who states them. Many hospital reports give such detailed tables of the cases they have had during the year that one may suspect that the point of real usefulness is passed. Statistics are useful as furnishing a statement or record but there is a limit to the amount of detail that is worth while even as a matter of record.

The most serious abuses connected with the use of statistics come in, generally unintentionally, through the inferences drawn from the statistics or the implications contained in them.

The difference that I mean to imply between inference and implication is much like the difference between denotation and connotation, or between statement and suggestion. If you draw up a list of states or cities in descending order of their death rates from some disease, the tabulation shows at a glance those with the highest and lowest rates. There is no harm in this, but the suggestion may be so pointed that there is a negligence of public health or medical service in those places at the top of the list and a triumphal success in those at the bottom that the mere presentation of the list may be an abuse. Those who are accustomed to work carefully with death rates know that for comparative purposes a set of unanalyzed figures is generally misleading. Nobody knows better how to impress people by suggestion than the emotional type of public orator and there are some of their ilk at large in the public health field. Some of them do much good, much more good than harm, but more because of their appeals to action, and their personal leadership therein than through any rational basis that they establish for action.

In New York they have a slogan, "No diphtheria by 1930." That makes a good emotional appeal, and as such may be useful in increasing the enthusiasm of the workers in the campaign of prevention and hypnotizing the public into a greater willingness to take the treatment. Yet I presume that no competent medical or pub-

lic health or statistical authority has any idea that diphtheria will be non-existent in New York two years from now, and therein lies a possible danger in the slogan because the public may have a serious reaction against the whole program when it comes to realize that it was misled. Generally speaking the memory of the public is short, so short that unrealized forecasts are overlooked and there is no reaction. It is on this trait of mob psychology that sloganeers bank with so much success, confident that while their spell lasts they will

accomplish more good than the harm that may follow the passing of the spell. Properly directed emotion is indispensable; we cannot get along without it.

If, however, we are to use statistics and avoid their abuse we have to keep emotion in the background. Some can not do this and they should leave statistics alone, otherwise they will surely mislead themselves. It is not alone through uncontrolled emotion that one may abuse statistics. Abuses creep in through inattention. As an illustration I may cite some figures from the latest (1927) edition of a leading manual of psychiatry. In dealing with injuries to the head the author states:

It may be pointed out, however, that in the United States, owing, probably, to imperfect legislative protection, serious accidents are needlessly frequent, as may be judged from the example furnished by American and British railroad statistics. These, for the year 1906, are given in the following table:

	<i>American</i>	<i>British</i>
Total Number of Passengers Carried ..	800,000,000	1,200,000,000
Total Miles of Track	200,000	27,000
Number of Collisions and Derailments ..	13,455	239
Number of Passengers Killed	146	58
Number of Passengers Injured	6,000	631
Number of Employees Killed	879	13
Number of Employees Injured	7,483	140

This table is given, mind you, to show that serious accidents are needlessly frequent in America with the further suggestion that this is probably due to imperfect legislative protection. The question I wish to examine is not whether either the inference or suggested reason is true but whether the table of statistics is of any use in establishing either. Note the following points: First, the author says accidents are needlessly frequent. He uses the present tense and quotes statistics of 1906 in an edition dated 1927. Let me recall that 1906 was in this country a year of furious activity, that since that time the railroads have passed through a war period under



governmental control and been returned to private management. Is it not possible that conditions have changed and that 1906 data cannot fairly be used to justify a 1927 conclusion? Second, the author speaks of accidents but quotes only railroad accidents and for legislative protection against them unless we are willing to assume a more or less fixed ratio, the same in the United States and Great Britain, between railroad and other accidents.

With this preamble let us look at the table. What does the table tell us? I do not mean merely what does it tell us about comparative railway accidents and comparative imperfect legislation, but what does it tell us *in toto*? The first thing that a student of statistics must learn is to inquire of the facts he has what they do say without being in haste to find out whether they say what he wishes. I say the student must learn this attitude because I have never had a student who came by it naturally, not one, and never expect to have. To look at facts to see what they do say is an acquired character, it is not inherited.

Third, the British Railroads carried fifty per cent more passengers than ours, though the population of Great Britain was perhaps only about half of ours, i.e., the number of persons traveling per capita was about three times as many on the British railroads as on ours. What this means one cannot tell without looking further into the facts; but it may well mean something that would completely vitiate the comparison between their roads and ours based on figures in this table. We have more than seven times as many miles of track as the British. This may make a difference in operating conditions which would have to be taken into account before the figures of accidents could be used to show our needless negligence compared with their excellence. Indeed the table gives these figures:

	American	British
Passengers carried for each killed.	5,500,000	21,000,000
Miles of track for each passenger killed. .	1,400	500

If we base conclusions on mileage we did better than the British; if on passengers, we did worse, perhaps a fairer comparison than either would be to base figures on passenger-miles which are not given. In respect to employees we may remark that the total number of employees is not given and cannot be assumed to be proportionate to the passengers carried or to the total miles of track. Perhaps accidents to employees should be based on ton-miles of freight or on car-miles of freight and passenger trains. It is impossible to suggest, without detailed study of railroad operating conditions, what are the figures that should really be available for a comparative study. Note that we killed one passenger for every forty-one injured whereas the British killed one for every eleven injured, a great difference; whereas the ratio of killed to injured among employees is about the same, namely one to eight with us and one to eleven with them. And finally observe that on our roads six times as many employees as passengers are killed but on theirs four and one-half times as many passengers as employees.

We have more than enough evidence in what the table does tell to conclude that it offers no data of value

in either proof or disproof of the statements of the author; the table is entirely useless even were it not archaic. All sorts of books are full of all sorts of tables like this — useless, and the reason that their uselessness is not apparent to the authors is because the authors have not been sufficiently attentive to the problem presented to become aware of that uselessness, they have not taken the pains to observe what the figures do state. From the discussion just given of the table of railroad accidents in Great Britain and in the United States some generalization may be made respecting the manner of examining statistical material relative to its possible usefulness and in the effort to avoid its abuse. What procedure did we follow? In the first place, we did not jump to any conclusion, whether the desired or its opposite. On the contrary we proceeded to discuss the figures themselves to see what they said and to detect lacunæ in them. Some of the things they said raised immediate doubts as to the comparability of the figures. In making this survey of the figures given we bore constantly in mind the fundamental differences between the two countries, such as size, railroad mileage, and so on, and the sort of quantities that are fundamental in railroad traffic as passenger-miles, car-miles, ton-miles, to see whether on the basis of those differences that anyone knows to exist and those units of measure that might presumably be appropriate, there was a good tabular setup for the problem or whether the lacunæ in the data were so numerous or affected such fundamental conceptions that one must hesitate to draw conclusions in the way of comparisons from such figures as were given.

This sort of general exploratory procedure is always to be recommended. When you go into statistics you are going into the woods and if you don't want to shoot your guide for a deer, you had best look before you shoot, and look carefully. Many persons are so anxious for their game that they blaze away at anything that moves or rustles. So with statistics they grab any convenient figures and put upon them, generally against perfectly clear internal evidence, any interpretation they please. Indeed they sometimes do even worse in that they pre-arrange a sort of *battue* whereby the figures that are easiest game for them are driven in for slaughter to the entire disregard of larger and more significant figures that have not been rounded up. In this way they may gain a reputation in their own eyes and in the eyes of their friends as great hunters, whereas they are really no hunters at all, but butchers.

It may seem that this problem of railroad accidents is far from important to the public health. I do not mind. We are trying to avoid emotional treatment of statistical problems and it may be wiser to treat as a type one which does not seem too pressing. There are plenty of instances of the other type of treatment in such a public health problem as that of alcoholic beverages and prohibition. But the problem of accidents in a great industrial country is not far from the public health and indeed is of great importance in that part of the field which deals with industrial hygiene and is central in safety engineering which may well be extensively considered in this great engineering school. It goes without saying that we could stop railroad accidents completely by abolishing the railroads. Also, without saying, society

could not afford that price. Danger lurks everywhere. It is part of life. The person who has such a typhoid or other 'phobia that he will neither eat nor drink is not so well off as though he took all the chances of normal living, even under very unsanitary conditions. It is a matter of balance, of adjustment to live individually or as a society in the best way. If safety engineering goes so far as seriously to limit the possibilities of production and distribution, it must cut down the income of the workman and of society in a way which the individual will not enjoy and society will not tolerate. In some industries I have been told that the maximum of net good to be accomplished by campaigns and devices for safety has already been reached if not passed.

"Safety First" is a good slogan, but there may be times or conditions where "Take a Chance" is better.

This sort of alternative was suggested, I think, more than once by the founder of the Institute's Department of Biology and Public Health when he queried whether our greater need might not be more, rather than better, milk. Sedgwick was long active in the campaign for a better milk supply but he could see that there must be a point where further improving the milk might so raise its price as to put it out of the reach of many children in the quantities they really need. As a social problem of the present day, is a cup of certified milk better than a pint of milk pasteurized in the bottle and this better than a quart of milk dipped from a tank? One may become excited to tears over such a cruel question if he thinks of the babies who die from the quarts of dipper milk and overlooks those that might die if they had but the cups of certified milk. I do not raise this question to answer it. I do not know the answer. So far as I ever heard, Sedgwick never answered it, nor knew the answer. I raise the question as a type, a very common type where for the social good there must be struck a balance between cleanliness and filth, between the whole loaf and none. Many persons abuse statistics because they are one hundred percenters bent on believing and on making others believe that their ideals, whether of public control or of *laissez-faire*, are absolutely right.

Perhaps I should pause to state that I have nothing against our emotions. I rate them a great deal higher than statistics. A person who is emotionally sound will often come to a sounder conclusion more rapidly on a complicated social question by the exercise of his emotions than by any statistical analysis he could give. I should say in general that one who thoroughly knows his field, who is a conscientious observer of his experience, who is not misled by slogans or the latest ill-established scientific pronouncement has relatively little need of statistics. He senses the proper conclusion. I much deprecate overemphasis on formal statistical methods. For some purposes such methods are indispensable. True, but not for all purposes. What I wish to say is that statistics and emotion do not mix except as everything merges in the well balanced individual. One draws on statistics for his own enlightenment and for

arguments directed to convince others in those circumstances where he or they need the statistics and the very fact that they are needed makes it essential that they should be sound and safe, surveyed for what they do tell and what they do not tell, both with respect to the specific question under examination and with respect to its setting in the general domain of knowledge to which it belongs. I recommend such books as W. G. Sumner's "Folkways", East's "Mankind at the Crossroads" as good books on statistics because they give an account of how people do behave. Add to these a good book on political economy, one on sociology, and one on mob psychology. Health officers are public officials and have to be guided in their thinking and action

not by statistics alone, not entirely by their knowledge of preventive medicine, but to no small extent, often even contrary to their scientific knowledge, by what the public will permit, both as represented by the statutes and as reflected in a coöperative attitude. Take the instance of venereal disease. The statistical situation is so bad here that we cannot say what the incidence of these diseases and their cost in fatalities are. Morbidity reporting is bad and the mortality is classified under some other cause. But the medical situation is good. The organisms are known, the mode of spread is known, the diagnosis can usually be certain, cures are

fairly reliable though somewhat slow, and various methods of prevention are effective. But do we follow up the carrier as we do typhoid carriers? Do we placard their houses as in scarlet fever? Do we keep them isolated during the infectious period as in measles? Or do we let them out only if they wear conspicuous arm bands as in whooping cough? Do we look up all the contacts of each case? The answer is *Nix!* There is a jinx on the V. D. and that jinx is the public as represented by the great and general Court of Massachusetts and the legislatures of many of the other states, the public which prefers to regard the incidence of these diseases as so much a matter of personal conduct that the public health organizations are not given a real chance at them. So long as the jinx is maintained we cannot be good statisticians or effective public health officials in respect to these diseases. And there is no use to say that the public is always wrong, the public has often been right; at any rate the whole theory of our government in this country is that the public is right, in the long run more nearly right than any other authority.

In the scientific study of public health problems, i. e., in epidemiology, statistics are indispensable and to draw unjustified erroneous conclusions from them is an abuse; in the practical administration of the public health it is useful to know the statistical situation truly but it is an abuse of statistics to force a scientific finding to a point of social disadvantage, for the problem here is to get the greatest good attainable and as you cannot put all the social aspects into your statistics, they cannot be expected to indicate the social optimum for which you strive in administrative measures.



Advisory Committee Report: Department of Mining and Metallurgy

The Secretary's Record of the recent Meeting held at the Institute. Published by arrangement with the Corporation Executive Committee

IN compliance with the request of President Stratton, I have endeavored to bring out the high points of the morning and afternoon sessions of the committee. In addition to my own notes, there was a stenographic report of the morning session and Professor Edward E. Bugbee, '00, on behalf of the Faculty, prepared a report covering both sessions. Members of the committee may therefore feel assured that the gist of all the discussion is a matter of record. These notes are in no sense to be taken as a formal report of the committee but rather as the impressions gained by an individual member of the committee.

Present at the meeting as members of the committee were: Lawrence Addicks, '99; R. L. Agassiz; W. H. Bassett, '91; G. T. Bridgman, '08; George K. Burgess, '96; G. H. Clevenger; F. F. Colcord, '98; W. M. Corse, '99; H. H. DeFries; Walter Douglas; F. A. Eustis, '03; W. R. Ingalls, '86; Zay Jeffries; W. M. Kelsey; Van Rensselaer Lansingh, '98; Robert Livermore, '03; E. D. Martin; Edward Page, '93; Allen H. Rogers, '90; Percy H. Thomas, '93; H. A. Wentworth, '05; and Jasper Whiting, '89. Members of the Faculty were: President Samuel W. Stratton; Professors W. Spencer Hutchinson, '92; George B. Waterhouse; R. S. Williams, '02; Charles E. Locke, '96; Carle R. Hayward, '04; Edward E. Bugbee, '00; Horace T. Mann, '25; Victor O. Homerberg, '21; and F. L. Foster.

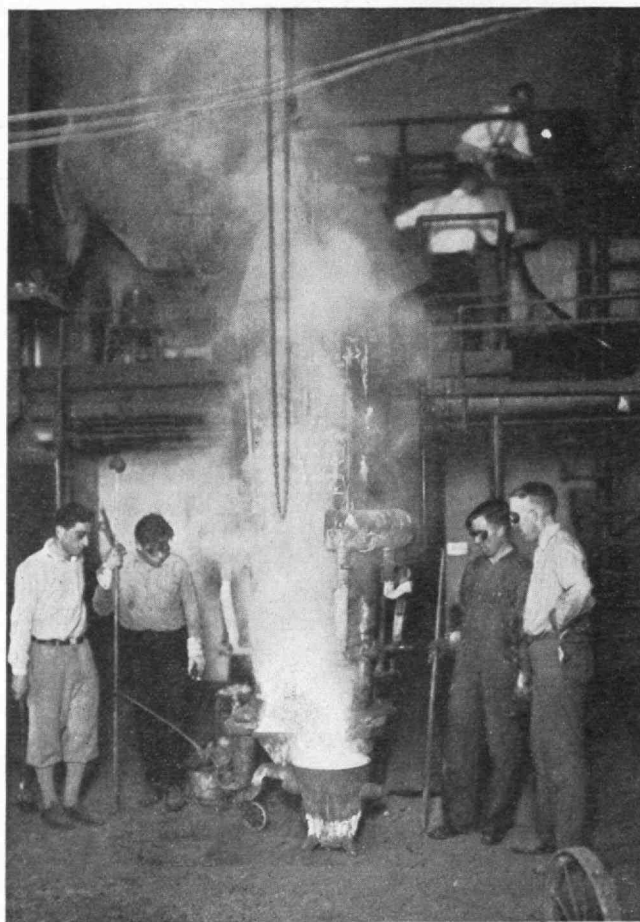
Purpose.—The meeting was called to order by President Stratton who presided throughout the two sessions. His opening remarks were much the same as upon the occasion of the first meeting of the committee four years ago. He said that his purpose in calling the committee together, representing as it did all phases of the mining and metallurgical industry,

was to learn of ways in which the industry and the Institute could be mutually helpful. He likened the Institute to a manufacturing plant whose product was trained men. Is there a demand and a market for the product? What kind of a product did the industry want and was there anything that the Institute could do to improve the product?

Statement by the Department.—Mimeographed copies of the statement were handed to all those present. Professor Hutchinson went through the statement rapidly, offering explanation where necessary and answering questions. In addition to dealing fully with the Department's work reference was made to the report of the committee's first meeting.

Decreased Registration.—For the benefit of the new members of the committee, I would like to say that it was apparent to the committee of five years ago that

a substantially larger number of students could be taken care of in the Departments of Mining, Metallurgy and Geology,* with the facilities and instructional staff then available. The first recommendation appearing in the report of 1923 was: "We would recommend that the proper steps be taken to increase the enrollment in Mining, Metallurgy and Geology, and that every effort be made to attract the right type of raw material to these departments." The curves presented by Professor Hutchinson show that there had been a steady falling-off in the registration. President Stratton and the Head of the Department are alive to the situation and have given it a great deal of study, as indicated by their discussion of the problem.



WHITE HOT

Students conducting an experiment in the laboratories of the Department of Mining and Metallurgy

* Mining and Metallurgy have since been separated from Geology and it is my understanding that the present Advisory Committee has only to do with Mining and Metallurgy.

Here we may pause to answer the two somewhat related questions — "Is there a market for the product?" "What can be done to improve the product or render it more attractive?" Members of the Faculty stated that there were many more calls for graduates than could be filled. With respect to improving the product or placing it in a more attractive package, there was considerable discussion which will be referred to later. With the demand considerably exceeding the supply and bearing in mind that the present courses are the result of a good many years' experience and development, it would appear that while improvement in many directions can be brought about, there is nothing very seriously the matter with the product. It therefore follows that the most important and outstanding problem confronting the Department at present is to increase the registration or to secure the proper grade and quantity of raw material. I accordingly have grouped together and give first all the comments bearing upon this subject.

Cause. — Professor Hutchinson presented curves showing the possible connection between the price of pig iron and copper and the enrollment in the Department as well as the total enrollment in the Institute. Attention was called to the falling off in registration in the mining and metallurgical departments of



W. SPENCER HUTCHINSON, '92
Since 1926 Head of the Department

other schools. It was pointed out that this was less serious in western than eastern schools and that in a few cases western schools showed a gain. The explanation offered for this was that the entrance requirements were less severe and the cost substantially lower. The idea was also advanced that the most of the recruits for the mining schools were now coming from the West and that in view of the above, they were inclined to seek schools nearer home. It is also to be borne in mind that some of these schools have gained in prestige in recent years. Dr. Stratton and a number of members stated that there was plenty of good raw material available here at home in New England. It was stated that the Institute did not secure any advertising through athletic teams or other similar activities. One member stated that he thought that there was a lack of "Tech Consciousness."

Remedies. — The question was raised as to the extent the Institute had used advertising to attract students. Professor Hutchinson stated that a number of inquiries had been received as the result of an advertisement in *Mining and Metallurgy*. Dr. Stratton was asked as to whether the Institute had contacts with the press whereby discoveries and other important work of members of the Faculty became known to the public. He said that the Institute had a

The Committee Personnel

THE following men constitute the membership of the Advisory Committee on Mining and Metallurgy:

- | | |
|--|--|
| LAWRENCE ADDICKS, '99, 51 Maiden Lane, New York, N. Y. | PERCY H. THOMAS, '93, Room 3616, 120 Broadway, New York, N. Y. |
| R. L. AGASSIZ, Chairman of Board, Calumet and Hecla Consolidated Copper Company, 12 Ashburton Place, Boston. | H. A. WENTWORTH, '05, 55 Congress Street, Boston. |
| W. H. BASSETT, '91, Technical Superintendent, American Brass Company, Waterbury, Conn. | JASPER WHITING, '89, 84 State Street, Boston. |
| G. T. BRIDGMAN, '08, Guggenheim Brothers, 120 Broadway, New York, N. Y. | T. D'A. BROPHY, '16, 6 Gilman Court, Scarsdale, N. Y. |
| GEORGE K. BURGESS, '96, Director, Bureau of Standards, Washington, D. C. | FRANK D. CARNEY, '87, 40 Wall Street, New York, N. Y. |
| G. H. CLEVELAND, '98, 57 William Street, New York, N. Y. | E. DEGOLYER, President, Geophysical Research Corporation, 65 Broadway, New York, N. Y. |
| F. F. COLCORD, '98, 57 William Street, New York, N. Y. | SIDNEY J. JENNINGS, Vice-President, U. S. Smelting Refining and Mining Company, 57 William Street, New York, N. Y. |
| W. M. CORSE, '99, 810 18th Street, Washington, D. C. | THOMAS W. KENNEDY, President, Mystic Iron Workers, Everett. |
| H. H. DEFRIES, Metallurgist, Ludlum Steel Company, Watervliet, N. Y. | JOHN A. MATHEWS, Vice-President, Crucible Steel Company of America, 17 East 42d Street, New York, N. Y. |
| WALTER DOUGLAS, President, Phelps Dodge Corporation, 99 John Street, New York, N. Y. | PAUL D. MERICA, Director of Research, International Nickel Company, 67 Wall Street, New York, N. Y. |
| F. A. EUSTIS, '03, 131 State Street, Boston. | WILLIAM A. PAINE, President, Copper Range Consolidated Company, 82 Devonshire Street, Boston. |
| W. R. INGALLS, '86, 115 Broadway, New York, N. Y. | FRANK A. ROBBINS, JR., '02, General Manager, Steelton Plant, Bethlehem Steel Company, Steelton, Penna. |
| ZAY JEFFREES, 2210 Harvard Avenue, Cleveland, Ohio. | B. D. SAKLATWALLA, Vice-President, Vanadium Corporation of America, Bridgeville, Penna. |
| W. M. KELSEY, General Superintendent, New Jersey Zinc Company, Palmerton, Penna. | FRANK E. SHEPARD, '87, Superintendent, U. S. Mint, Denver, Colo. |
| VAN RENSSELAER LANSINGH, '98, President, York Metal and Alloys Company, 100 East 42d Street, New York, N. Y. | R. H. SWEETSER, '92, The American Rolling Mill Company, Columbus, Ohio. |
| ROBERT LIVERMORE, '03, 201 Devonshire Street, Boston. | ARTHUR WINSLOW, '81, 131 State Street, Boston, Mass. |
| E. D. MARTIN, Edison Portland Cement Company, Stewartsville, N. J. | WILLIAM WRAITH, Vice-President, Anaconda Copper Company, 25 Broadway, New York, N. Y. |
| EDWARD PAGE, '93, Vice-President, New England Coal and Coke Company, 111 Devonshire Street, Boston. | |
| ALLEN H. ROGERS, '90, 26 Beaver Street, New York, N. Y. | |

publicity man who took care of these matters and that the papers would always publish anything that was *news*. He said that there were some types of advertising which were beneath the dignity of the Institute. The pamphlet *Technology*, copies of which were handed to members of the committee, was published as a result of an investigation made in high schools within fifty miles of Boston. The average boy has no idea of what the technical field contains for him today. *Technology* gives information along these lines in simple and attractive form for both boys and their parents. This is supplemented by the opportunity given high school and preparatory school students to inspect the Institute. Four lectures are given during the year by the Institute's best men. At first these were given on Friday afternoons but it became necessary to repeat them on Saturday afternoons and now they are also given on Sunday for the benefit of the parents. President Stratton said that every teacher in the high schools or preparatory schools was a salesman for some college. The Institute is at a disadvantage in this respect as very few of its graduates have gone into teaching and yet the training which can be secured there would especially fit a man to teach mathematics and the fundamental sciences.

The Student.—There was some discussion of the raw material and a good many comments as to the type of graduate that industry wanted. In respect to the raw material, all those cardinal elements of character are desired which are essential to success in any line of work. It was pointed out that the college should not be held responsible for too much as the percentage of the average man's life spent at college was relatively small. Students often have difficulty in selecting their major course. Many are often attracted to college by something of little importance or may go to a certain college because their father did. The problem is to get these men properly oriented. It was suggested that the freshmen be *exposed* to as many things as possible in order that they might discover the line of work that they were best suited for.

With respect to the finished product, the young graduate, opinion differed. One idea advanced was that in training of men there should be a sharp distinction between ferrous and non-ferrous metallurgy. On the other hand, there were those who held that it was impossible to train men for particular positions and that there did not need to be a great deal of distinction in the

undergraduate training of the mining engineer and the metallurgist. The majority opinion seemed to favor good fundamental training without too much specialization. One member said that when he hired young graduates he wanted men who could rise to the manager's position. He also said that at times the recent technical

graduate could not fill the bill and he accordingly selected men who had had some experience with the Bureau of Mines or other similar organization. The question was raised as to whether training in Mining Engineering fitted a man for the higher executive positions in a company. One member thought that the scientific type was not successful in executive positions. It was pointed out that technical knowledge was even of value to a salesman.

Discussion of Courses.—The difference between graduate and undergraduate courses was pointed out. There was some difference of opinion as to whether a thesis should be required from undergraduate students. One member said that graduate students should work on practical problems. Another took the position that this type of work might be better done in an industrial laboratory and that graduate work should be of a fundamental character and not a duplication of what the industrial laboratory can do. It was

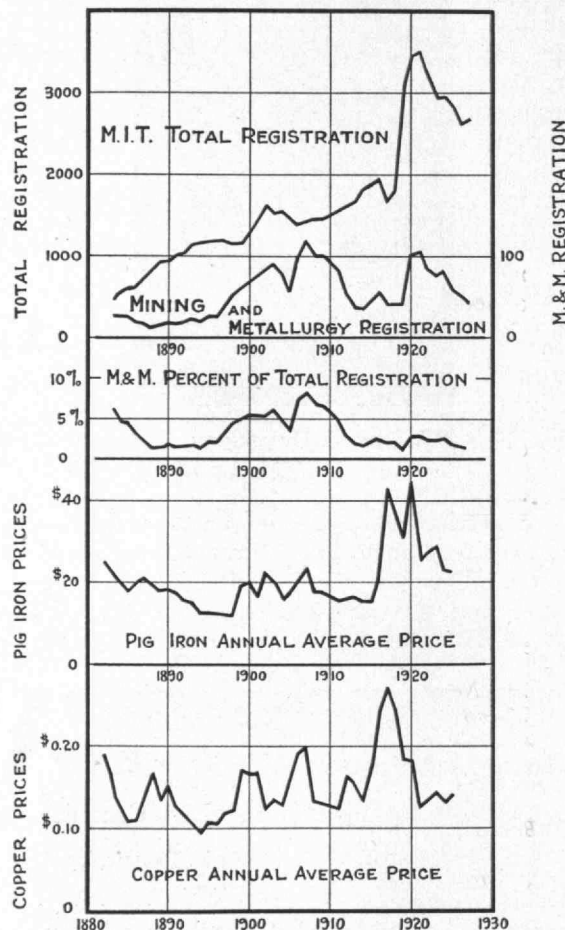
stated that the Bureau of Standards now offered complete competition in graduate work with the schools. Dr. Stratton said that the graduate student should do his own thinking and not be a willing pair of hands for some professor's brain. He also raised the question as to whether graduate work in metallurgy required working scale equipment, such as rolling mills. One member said that he did not favor the idea of part time pay for graduate students seeking experience in industrial plants. He said that professors should visit plants and familiarize themselves with industry. One member inquired as to whether it would be possible to have a course which would develop personality and knowledge of men. Dr. Stratton said that this was important but difficult to bring about but that a good deal might be accomplished by coöperation. The suggestion was made that more attention be paid to modern languages and especially to Spanish.

Respectfully submitted,

GALEN H. CLEVINGER,
Secretary to the Committee.

January 3, 1928.

METAL PRICES COMPARED WITH M.I.T. REGISTRATION
1883 — 1927



Undergraduate Affairs

Jope the Giant Killer

For Maine her 'squatters' sends to town
On legislative station;
The Boston host to batter down,
Those guardians of the nation.

THUS did the inhabitants of Maine once challenge the Bostonians who ruled them, and much of that spirit still survives even though they now rule themselves. A perceptible amount of it was discernible in a curly black haired lad who, in 1923, journeyed up from Maine to squat in the Institute Dormitories after the 'tater-diggin' was over. A likeable, ingratiating lad was this native of Portland, and his head was screwed on tightly, but not too tightly. Nor was it too much askew from the weighty halo of importance which likeable, ingratiating seniors achieve in the Portland High School, but it was slightly askew.

He did not come alone, we have it confidentially, the Boston host to batter down, but with him he brought Penelope the Potato Bug, a native of Aroostook, and beloved by Archy the Cockroach, that pawky bug. Now the name of this curly black haired lad was Jope (pronounced with one syllable) and Penelope (pronounced with four syllables) was his confidante and advisor. Nightly he would commune with her through a small opening in the petrified potato within which she secretly resided in his room, and nightly did Penelope regale him with worldly wisdom. Even yet, those whose ears are attuned and who would slip into his dormitory room in the still coolness of early morning after the last bottle had been thrown over the wall into the President's garden, could detect the sweet skirling of Penelope, forever watchful and wise.

The history of Ralph T. Jope, '28, then, must be but a reflection of the wisdom of Penelope, just as the story of his droll predecessor, the Honorable James Adam-m-m Lyles, '27, was but the story of what came out of his jeweled snuff-box. Lest this confuse the reader let it be added that Jope the Giant Killer, as later he came to be called, did batter down his Boston host, and won the Presidency of the Senior Class, that

giddy post. Otherwise the history of Penelope would go unwritten. In rising to his high place he was successful and wise when he made use of her advice, but at times he did not do this, as for instance when championing Freshmen Rules he forgot that he resided on the wind-swept banks of the Charles and imagined himself instead in the dank swamps by Umbagog.

On Page 334 of this periodical of adventure and wit is related the story of President Jope's appearance before the Alumni Council and how he won the acclaim of that periwigged inner bench. The Council Correspond-

ent did not say—perhaps he did not know—that Penelope was comfortably ensconced in the likeable, ingratiating lad's upper left-hand vest pocket and therefrom did prompt and inspire him in his speech they had so carefully prepared the night before. It was she who suggested the Delsarte gestures, she who suggested the eloquent flights he had learned so well in the Debating Society, and the unctuous blandishments he had mastered selling advertisements for *Technique*, just as it was she who helped him master the airy persiflage and repartee that skillfully dispatched some of the more periwigged of that beperiwigged assembly.

Their joint actions that evening at the Council Meeting are illuminating and pertinent in any account of their career on the Charles because their actions there were, in essence, a recapitulation of

the evolutionary process whereby the curly black haired lad became Jope the Handshaker, the Debater, the Salesman, the Giant Killer, and finally the leader of the Jopesonian Democrats and President par eclectic of the Senior Class.

Now the time has come, not to speak of many things, but to speak no more. This entomological and historical romance must wait until another time. By then, perhaps, these squatters that Maine has sent to town may have gone on to new triumphs, to eloquence still more eloquent, to blandishments yet more bland. By that time too, Jope may be pronounced with two syllables (the gods forbid!) for that will only happen when Penelope the Potato Bug marries Archy the Cockroach, that pawky bug.



Warren Kay Vantine

RALPH T. JOPE, '28

Much of his administrative wisdom is accounted for in this accompanying tale of Penelope the Potato Bug, Archy the Cockroach, and Jope the Giant Killer

Restless Sportsmen

Two new organizations, the Polo Club and the Flying Club, have made their début before the undergraduate body in the past year, bringing with them difficult problems in undergraduate administration and finance.

The Polo Club proceeds as a private enterprise under provisional recognition from the Athletic Association, although it receives from them no financial support. Original plans of its undergraduate backers, more enthusiastic than practical, called for the raising of about \$2,000 with which to purchase eight polo ponies, but when it was pointed out that the use of only eight ponies for a large number of candidates in a four-on-a-side game would hardly meet with the approval of the S. P. C. A., and that the budget made no provision for stabling or feeding the mounts, hopes for an immediate realization of the dream dwindled.

Some twenty-five men are now said to be practicing once a week on rented ponies, getting supplementary experience upon Maude, the wooden mule, who has a special caged-in stable fitted up in the old Hangar. The Club has already played two games, winning one and losing the other. Their attentions are now directed toward convincing the R. O. T. C. that Technology needs a mounted service unit and toward finding a wealthy horse-loving alumnus who has become weary of contributing to the Dormitory Fund.

The Flying Club, an offshoot of the long-established Aeronautical Engineering Society, presents the most difficult problem. An expensive pastime at best, unsettled questions of legal and moral responsibility in case of an accident arise to complicate matters. Members of the Club maintain that flying is absolutely safe, while the conservatives of the Institute Committee conjure up visions of adding a funeral committee to its legislative impedimenta.

When that governing body was first approached for its sanction of the Club's plan, the conservatives were able to squelch it with little difficulty, but during the following two weeks enough votes were gathered in to give a comfortable majority. Now the organization is officially recognized and entitled to bear the name: "M. I. T. Flying Club." Already a plane has been ordered for delivery in this month and the practical work will begin. Several members of the Club are

licensed pilots, having met the requirements of the Commonwealth and the Department of Commerce. Others are in training—ample assurance that the plane will not lie idle when it arrives.

In the undergraduate legislature, the M. I. T. Flying Club promises to have all the popularity of a trained *Mephitis mephitis* at a lawn party: everyone is happy as long as the act proceeds according to schedule. But let someone forget his training, let a plane volplane onto some farmer's roof, its pilot parachuting into his greenhouse; then—but that will be another story.

ATHLETICS BUDGET

At the close of the current year the M. I. T. A. A. will have spent about \$16,280 received from Undergraduate Dues. The following budget represents (to the nearest dollar) the net expenses of each team after making deductions for "guarantees" put up by the "home team" when Technology visits them:

Team	Amount
Basketball.....	\$ 666
Boxing.....	351
Crew.....	1,940
Cross Country....	969
Fencing.....	670
Field Day.....	257
Football (Class)...	36
Golf.....	218
Gym.....	468
Hockey.....	758
Rifle.....	484
Soccer.....	633
Swimming.....	1,118
Tennis.....	354
Track.....	2,622
Wrestling.....	908
M. I. T. A. A.....	1,188
Publicity.....	140
*Coaching.....	2,500
Total.....	\$16,280

** A part of the coaching expense (not shown here) is paid for directly by the Institute.*

High Finance

With no football team to bring in thousands of dollars to the coffers, it is only through a careful preparation of budgets and a rigid adherence to them that Technology athletics operate. Gate receipts return a negligible amount, with the result that practically all of the available funds are derived from the undergraduate dues, an annual \$10 assessment upon every undergraduate to pay for a part of the medical attention he receives, for his class expenses, for the expenses of the student government, and for athletics.

Although direct management of athletics is in the hands of the M. I. T. Athletic Association, (M. I. T. A. A.) composed of the captains and managers of all the recognized teams, standing over it like a watch dog is the Budget Committee whose duty it is to inspect the budgets of the individual teams and decide how the available funds can be used to benefit best the greatest number of men. The Budget Committee, a sub-committee of the Institute Committee, consists of a chairman, the treasurer of the Athletic Association, one other student, and the Bursar of the Institute who acts solely in an advisory capacity. Only expenses

absolutely necessary to the conduct of the sport receive an allowance in the budget, and, consequently, only material that may be carried over from one season to the next is purchased by the Athletic Association. Uniforms, track shoes, and similar equipment are purchased by the individual players themselves. In the adjacent column to the left appears a list of the teams receiving support from the general student body through the M. I. T. A. A., sixteen of them who will have spent this year but \$16,280.

The whole of the project is run by the undergraduates

from beginning to end with only the Alumni Advisory Council on Athletics, a truly advisory body, to pass judgment. It is a smoothly running state of affairs and never has the Advisory Council found it necessary to exercise that drastic prerogative which permits it, in an emergency, to take over the M. I. T. A. A. and run it until a competent management can be selected by the undergraduates. The Advisory Council receives each year, principally from Alumni contributions, small sums of money which enable it to supplement the M. I. T. A. A.'s funds in an emergency. For example, if having done exceptionally well for the season, a team has the chance to compete in a championship meet; the Advisory Council can see that they go, although the trip could not have been allowed for in the budget.

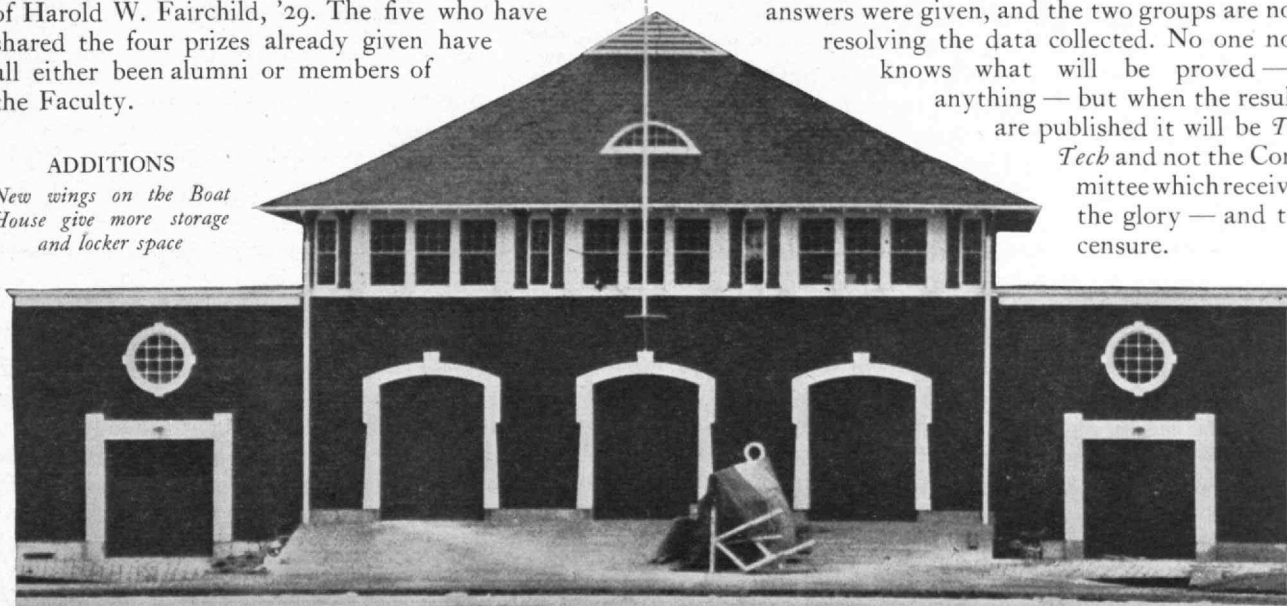
Prize Song

Those who have kept in touch with undergraduate affairs for the past few years will not need the checkered career of the Alumni Council's Prize Song contests explained. For the others, suffice it to say that the Alumni Council, the Combined Musical Clubs, Tech Show, and *The Tech* agreed to award a prize of \$200 for the best Technology song submitted in each of five contests, the best of the five to be picked as an Alma Mater song to replace the Stein Song. Of the capital difficulty of writing such a song, of the discussions that have arisen over each contest, the less said the better except that a book of anecdotes might well be collected on the subject.

On May 20 the fifth and last of the contests closes, at which time all compositions must be in the hands of Harold W. Fairchild, '29. The five who have shared the four prizes already given have all either been alumni or members of the Faculty.

ADDITIONS

New wings on the Boat House give more storage and locker space

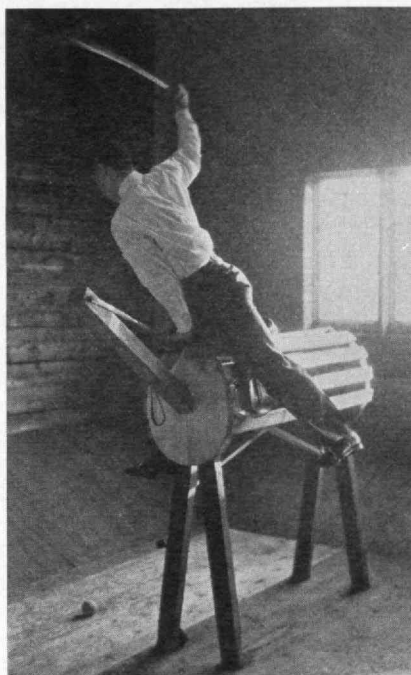


Investigation

When, along toward the middle of May, the present Institute Committee lays aside its official trappings and retires to private life, it will require a careful balancing of the books to show whether the Jopsonian Democrats (discussed in previous issues of *The Review*) or the conservatives have held the balance of power. Freshmen rules, the management of Field Day, and the recognition of the Flying Club, are certain to be credited to the radical left wing; the enforcement of the freshmen rules since Field Day and the investigation of the curriculum will as certainly be counted for the conservatives — that is, if *The Tech* has the correct slant on the situation.

Away back last spring, the Institute Committee decided that certain of the courses were not being properly handled by the Instructing Staff, and, inspired by the efficiency with which the Class of 1927 had conducted senatorial investigations, a committee was appointed to *investigate* the curriculum. The idea met the hearty endorsement of President Stratton, who appointed a Faculty committee to work with

the undergraduates. That was the last heard from either committee until early in March, when the new Managing Board of *The Tech* announced that it would circulate a questionnaire upon which students could express opinions of their courses. The investigating committee suddenly came to life — startled, but nevertheless came to life — and asked that the questionnaire be modified slightly to conform to its ideas. This was graciously granted by *The Tech*, the questions were asked, the answers were given, and the two groups are now resolving the data collected. No one now knows what will be proved — if anything — but when the results are published it will be *The Tech* and not the Committee which receives the glory — and the censure.



MAUDE

Charles H. Topping, '28, Manager and Captain of the Polo Club practicing on Maude, the Club's only pony

Books

American Architecture • • Gold by Hook or Crook • • Ovis Poli

Log Cabins to Skyscrapers

THE STORY OF ARCHITECTURE IN AMERICA, by Thomas E. Tallmadge, '98. \$3.50. x + 311 pages. New York: W. W. Norton and Company, Inc.

THAT an architect should present to the public a statement on professional questions in a style so free from technical phraseology, so essentially readable and enjoyable as has Mr. Tallmadge in this "The Story of Architecture in America," is in itself noteworthy, but is only one of the many qualities for which this book may be recommended.

Of the books on architecture that have hitherto appeared, perhaps "The Significance of the Fine Arts" (published by the American Institute of Architects) alone will reach the general public in so available a form as does "The Story of Architecture in America." The title well expresses the contents. It is a story full of life and interest — the sort of interest that is found in men who dominate the major events or periods in such a process of development as is described.

The process of evolution through which our architectural development passed following the close of the Colonial period until the World's Fair at Chicago is traced with a just recognition of the different foreign elements (whether French, Spanish, or English) that were seeking expression in their new environment. The underlying currents that were quietly moving toward the accomplishment that first took form at Chicago are not so definitely traced as the facts would seem to call for, but the culminating achievement of the Fair is a dramatic story that one reads with a thrill of excitement, and with a boundless enthusiasm for the courageous spirits that were willing to dare to do something new. One feels the same thrill for the group that saved L'Enfant's plan of Washington from oblivion, that ensured the existence of a worthy national capital, and that made possible the further progress that is being accomplished today under the inspired leadership of the President of the American Institute of Architects, M. B. Medary, Jr., with another group of devoted public servants.

The steady growth that followed the different contributions made by Richard M. Hunt and H. H. Richardson, whose mantle fell in turn upon the shoulders of McKim, Olmsted, and Burnham, is a picture of national development that no American can read without a thrill of pride. In fact, the story of architecture since 1893 is marked by an increasingly successful struggle to rid our efforts of the dominance of any one style in the attempt to find an expression that typifies the purpose of our buildings as determined by carefully considered plans. Underlying this struggle and the performance of these outstanding individuals lies an element that should not be overlooked, and that peculiarly marks the pro-

fession as we know it today — that is, the spirit of public service. The belief that only the best is good enough, and that no sacrifice is too great where the interests of the public and the nation are to be served, were the standards under which these men assembled, and remain today the controlling motives for what is best in our architecture.

It is a matter of no small interest to Technology men that many of these whose footsteps we so proudly follow, received a portion, at least, of their early training in the Department of Architecture, as did the author himself. Professor Ware's example and influence doubtless first set their feet on the road that they later traveled with so much success and distinction.

At this period in our architectural development when the Old World is confidently looking to us to carry on the torch whose flame they have kept alive throughout the past centuries, it is well to be reminded to whom we are indebted for our inheritance, to realize in the words of the author that "These men are the heroes of architecture, and their names will live long after their earthly works have perished."

WILLIAM EMERSON

Seven Men

CERTAIN RICH MEN, by Meade Minnigerode. \$3.50. xi + 210 pages. New York: G. P. Putnam's Sons.

SEVEN American men of wealth, gentlemen pirates most of them, colorful characters all, are sketched in this book. It is helpful to list them, together with their principal sources of income and their final fortunes:

	<i>Source of Income</i>	<i>Final Fortune</i>
STEVEN GIRARD (1750-1831)	Shipping and Banking	\$7,000,000
JOHN JACOB ASTOR (1763-1848)	Fur and Real Estate	20,000,000
JAY COOKE (1821-1872)	Brokerage, Banking, Mines	1,000,000
DANIEL DREW (1798-1879)	Steamboating, Railroading, Speculation
CORNELIUS VANDERBILT (1794-1877)	Steamboating, Railroading, Speculation	100,000,000
JAY GOULD (1836-1892)	Railroading, Speculation	72,000,000
JAMES FISKE (1834-1872)	Steamboating, Speculation

The first three of these have no connection with any of the others; they pursued independent courses in piling up their wealth. Of the seven, Cooke is the only one to come through unstained by questionable practices. His great service in floating government bond issues during the Civil War, his early recognition of the value of financial advertising, his failure and recovery, redound eloquently to his credit as a brilliant, upright man. Girard, too, was scrupulous; he merely indulged in some

smuggling. Astor was not notorious; but he was unfeeling and unrelenting in his pursuit of wealth.

Drew, Vanderbilt, Gould, and Fiske present a different story; their activities were closely related and their methods stank to high heaven with fraud and corruption. Theirs was the era of wholesale speculation and stock manipulation; at their feet must be laid the buying of legislatures, the corruption of the Grant administration, Black Friday and the attempt to corner the gold market, and the disastrous juggling of Erie stock. "In the course of these operations they had ruined hundreds . . . had arrested the whole business of the country . . . had brought the banks to the verge of suspension and seriously threatened the national credit."

These Four Horsemen of the Financial Apocalypse perpetrated a dramatic carnage, and the story of it makes Mr. Minnigerode's book. Vanderbilt and Gould were the most successful, the most astute and resourceful of the great speculators, and it was to have been expected that the biographies of their lives would prove more readable than the others. In this day of Nicaraguan controversy, it is timely to review Vanderbilt's *coup d'état* down there when he was fighting his memorable battle to monopolize shipping to and from the Pacific. That was the real beginning of our Central American imperialism.

To return to the characteristics of the group of seven, it is interesting to note that two of them were immigrants (Girard and Astor) and that all of them, save Cooke, started their careers nearly penniless. Six of them built up their fortunes out of some form of transportation, water, rail, or both. Not one of them was an industrialist.

The material in this book is not new; Mr. Minnigerode has simply poured old wine into new bottles. He accomplishes the job competently, though not brilliantly. Too frequently he glosses over the intricacies of the wildcat financing, leaving the reader somewhat bewildered, and he does not work into his biographical material sufficient economic and historical background. Two episodes he has handled superbly — the Gold Conspiracy and the Erie gambling. It would be hard to find more absorbing reading than these sections offer.

J. R. K. Jr.

Ovis Poli

ACROSS ASIA'S SNOWS AND DESERTS, by William J. Morden. Introduction by Roy Chapman Andrews. \$5.00. xiv + 415 pages. New York: G. P. Putnam's Sons.

ROY CHAPMAN ANDREWS of dinosaur-egg fame and Mr. Morden (hastily roused for the occasion at five-thirty) breakfasted together in a Chicago club one frigid January morning in 1926. Before parting they made a date — "casually" says Dr. Andrews — to meet on the first day of the following September at a place called Hami in eastern Chinese Turkestan, the very center of Asia. Andrews was to proceed westward and, from Peking, lead another Central Asiatic Expedition across Mongolia, including a 1,500-mile stretch via the Gobi Desert, to the rendezvous. Morden was to go eastward via Suez and reach Hami after crossing the Himalayas and hunting sheep in Russian Turkestan. But when Andrews got to China he "found the usual war in

progress" and had to radio his regrets to Morden, who by that time was toiling onward toward the Thian Shan Mountains.

For Morden had outfitted during March at Srinagar in the peaceful Vale of Kashmir, and, accompanied by James L. Clark, Assistant Director of the American Museum of Natural History, had advanced the first step on a nine months' journey that was to take them 8,000 miles across one of the most barren regions of the earth, varying from 900 feet below to 16,500 feet above the level of the sea and whose temperatures ranged from minus forty-four to over 100°.

It was March 30 when Morden and Clark set out to negotiate the Burzil Pass across the Himalayas with a caravan of fifty-three coolies, each bearing an allotted burden of sixty pounds. Over 13,000 feet in height, nearly as high as Pike's Peak, the famous Burzil is one of the most dreaded passes in Asia and "thoroughly deserves its reputation." Its successful passage, weeks before its ordinary opening for the summer, brought the Expedition to the Astor River which was crossed on a bridge whose steel cables, 300 feet in length, had been carried over the Burzil from India like great snakes on the backs of hundreds of coolies.

Then by trail over the Gilgit Road — a "trail of sorts" constructed in 1891 by British engineers — they went northward visiting the Mirs of Nagar and Hunza and being called upon by the Rajah of Chalt. Then, a month after leaving India, they stepped over the forbidden border into Russian Turkestan via the Peyik Pass (15,470 feet). Here in the Pamirs three of the great mountain systems of Asia come together.

Six of the eight Pamirs are in Russian Turkestan; the other two are in Chinese Turkestan, or Sin Kiang, and Afghanistan. These wide, treeless, upland, glacial valleys, the floors of which average from twelve to fifteen thousand feet above the sea, are separated by ridges as high as nineteen or twenty thousand feet. Besides being above the timber line, they are extremely arid. In area they cover thousands of square miles and by Marco Polo were called the "Roof of the World."

Entrance to this remote and prohibited terrain was secured by permission from the Soviets, largely thanks to the magic contained in a "to-whom-it-may-concern" letter (page 374) furnished by Senator Borah. Not only at Moscow, but everywhere in Asia, except at Ji-ji-ho in Mongolia, did the signature of the Senator from Idaho work as a countersign.

It was in the Russian Pamirs that Morden hoped to secure in large numbers specimens of the rare *Ovis poli*, Marco Polo's "legendary" sheep, which most naturalists believed to be a species fast approaching extinction. It was his theory that the sheep, terrified because of the military and marauding raids which from time immemorial had used the mountain passes in the region, had sought refuge by crossing the range separating Chinese from Russian Turkestan. In the latter region they would be protected from hunters, except for crudely armed natives, since it has been a closed military territory for years. "Not once in a decade and a half had a single expedition crossed the international border in search of these magnificent animals."

(Continued on page 382)

News from the Classes

The Secretary of 1885

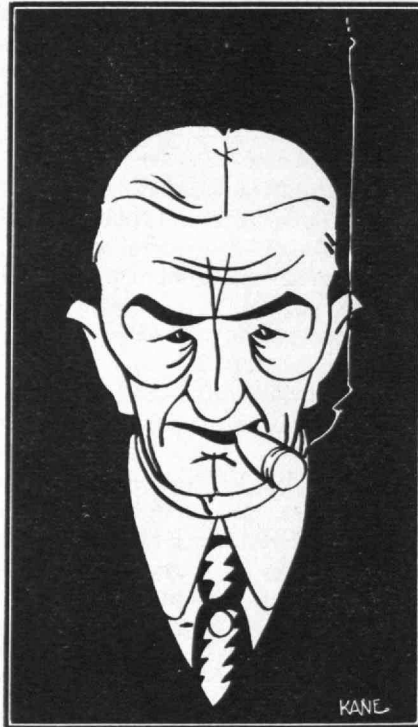
JAMES P. MUNROE, '82, has filched from the Muses many telling phrases, but none more pat than *Versatile Ike*. In these four syllables he embodied a character all-compact, in these two words a suggestion of the man's widespread activity and the affection his activity has engendered. Ike is no mere nickname; it has been for a long time, probably since the formation of the V. L. Club, the corporate title of an institution.

Isaac W. Litchfield, '85, perhaps it was who edited the *Warwick Valley Dispatch* from 1894 to 1902 who was an official of several harvester companies, but it was Ike Litchfield who assisted in establishing *The Tech*, who wrote "Take Me Back to Tech." Perhaps it was Isaac White Litchfield who was in Washington during the war in charge of "indexing and classifying for mobilization the technical and specially trained men of the country," but it was Ike Litchfield that edited *The Review* from 1908 to 1917, Ike that engineered the great Reunion of 1916, who was Field Secretary of the Alumni Association, Ike who was appointed Secretary of his Class in 1905. The two distinctions might be carried further but Mr. Munroe's phrase is already more than substantiated.

The Litchfieldian tradition got off to an early start during the palmy undergraduate days of the Class of 1885. He was Treasurer of the first volume of *The Tech* and later one of the Presidents of its Board of Directors. He was a member of the V. L. Club, the mysterious organization that flourished in those days and that to this day lives colorfully in reminiscence. Undoubtedly he assisted in the planting of that famous tree that grew and grew and assisted in laying out that historic spot with the green grass growing all around called the campus. At any rate these are the things that the Class of 1885 still boasts of and Ike still talks about as only he can talk. It should

not be forgotten, too, that those were the days when Litchfield the Poet was in flower.

From 1885 to 1894 there are no discoverable records of the Class, but during the latter year a directory was published. Page three was given over to an essay entitled "Dreams" which was signed with the initials I. W. L. These initials even now



ISAAC W. LITCHFIELD, '85

As Henry B. Kane, '24, sees the versatile Secretary of 1885

seem somewhat superfluous for the style and content stamp it unmistakably. No one who has heard Mr. Litchfield talk at a banquet of *The Tech* or has spent an evening in his citadel at 10 Kenmore Street would believe that anyone else wrote it. The Litchfield style developed early.

The year 1899 brought him the Presidency of the Northwestern Association, an alumni group formed in Chicago, and reports in his characteristic style may be found in Volume I of *The Review*. Quiet prevailed until 1904 when he became Class Secretary and concomitantly a member of the Committee of the

Association of Class Secretaries that actively opposed the then pending merger with Harvard. Four years later he assumed the Editorship of this magazine and from then until 1917 did valiant work in building up the Alumni Association.

When he resigned to go to Washington, *The Review* said in speaking of his activities on behalf of the Alumni Association: "Mr. Litchfield . . . employed without stint an enthusiasm so fine and contagious, so wide and intimate a knowledge of Institute affairs and men, ideas so ingenious and compelling and such loyalty and devotion to his Alma Mater that he has come to stand in the minds of many as the embodiment of the Institute spirit and in the minds of all as an earnest, resourceful, and effective agent for developing alumni interest, organizing alumni activities, and for carrying far and wide the message of the Institute."

And now he devotes his time to the company that manufactures his invention, the Litchfield Linoplate. He continues with all the Litchfieldian manner and all the Litchfieldian graces to serve his Class as Secretary and at odd moments to talk of old times with undergraduates. They too know him as Versatile Ike.

The Grab Bag

Insurance seems to be the *pièce de résistance* of 1889. — Charles G. Abbot, Secretary of the Smithsonian Institution, is going to cause trouble between 1894 and 1895. Both Classes claim him. — Hectic is the life of a fire commissioner if it is as bad as Professor Locke describes the experiences of Gene Hultman, Fire Commissioner of Boston.

A system of rotation is now being used by the secretarial organization of 1897 which is proving particularly successful. A different member of the Class prepares the Notes each time. — Telegrams have been resorted to by the up and coming Secretaries of 1889 and the results speak elo-

quently for that method. Several other classes might send a few, — 1916 for instance.

Many Class Note fans will be disappointed this issue over the absence of George Russell, '00. Perhaps a few collect telegrams might be used by him. — Fred Clapp tours Persia in the 1901 department. Everything but Extra Dry is served up in these notes. — Mock warfare is being indulged in by the genial 1905 Secretary and the Editors of The Review. Beware of flying shrapnel.

Imagination is an important ingredient in the make-up of 1914. Witness their selection for the guest of honor at a recent dinner. — 1915 is going like a house afire these days. — An ingenious and notable plan to raise money for dormitories is presented in the 1917 Notes. It could well be used in several classes.

Carole Clarke, '21, who terms himself *Asec*, seems really awed by the ogre of censorship. Rather than allow a correspondent to say *damn*,

he inserts a back-hand reference to the Keokuk Dam in order to convey the same idea more genteelly. — Frank Preston remarks that in 1925 it all too frequently happens that he hears that so-and-so is a proud father before he hears that he is married.

Eight births are recorded in this issue: three in 1924, two in 1920, and one each in 1914, 1918, and 1925.

Deaths

Additional mention of the following men, recently deceased, may be found in the notes of their respective classes:

GEORGE ALFRED KNOX, '87. Died January 3, 1928. He was connected with the Department of Ordnance in Washington, D. C.

WILLIAM DOUGLAS WINDOM, '87. Died October 25, 1926.

CHARLES H. HOYT, '93. Died April 17, 1927. As an inventor of shoe machinery he was with the

United Shoe Machinery Corporation, Beverly.

HARRY MERRITT HAVEN, '95. Died on February 6, 1928. He was founder and President of H. M. Haven and A. T. Hopkins, Inc., Boston.

MISS GRACE A. NORRIS, '96. Died February 10, 1928. She has been continuously engaged in civic affairs in the City of Chelsea.

MRS. ALICE P. NORTON, '96. Died February 23, 1928. A pioneer in the field of home economics.

WALTER M. BUSH, '97. Died February 16, 1928. He was associated with Burchell, Gillies, and Gaudette, Inc., Boston.

WARREN M. ARCHIBALD, '99. Died January 16, 1928. Acting city engineer of Medford.

HENRY THORNTON WINCHESTER, '03. Died December 31, 1928. A nationally known electrical engineer, he was Vice-President of the Apex Coal Company of Chicago.

WALTER F. McAVOY, '23. Died December 28, 1927.

'74 Stevens writes from Rome, Italy, under the date of January 4: "We have arranged for the Cook excursion up the Nile, and leave Rome February 23 en route. We shall be forty-two days between here and Athens, fetching up at the latter place in early April. From there, after an indeterminate stay, we now expect to sail to Trieste, and then to invade Central Europe."

Three of our men, Chase, Nickerson, and Russ, attended the Annual Alumni Dinner, held early in January. Four of the Class, Barrus, Chase, Read and Russ, enjoyed the quarterly lunch on February 23, which was at the University Club. Nickerson has become one of the trustees of Boston University. He has donated a recreation field to the University, and it has been named in his honor.

The Secretary had a recent call from Holbrook, who is about to close his visit and leave for Chicago. Chase is planning for a western trip for the coming summer, this time to the extreme Northwest, and he may take a side trip from there to Honolulu and call on Emerson. The latter was one of the recent contributors to the Dormitory Fund, loyal as ever to '74 and M. I. T. — CHARLES F. READ, *Secretary*, Old State House, Boston, Mass.

'75 As the Class Notes close for the April Review, Goodale is clearing the decks to go to Washington, D. C., for two weeks or longer. He plans to return to the Engineer's Club, Boston, about April 1.

Webster has passed the winter in Southern California. It is probable that he will bob up in Philadelphia for a month or so before going to Maine for the summer. Incidentally, I am

indebted to him for the run of the Art Club recently while in the Quaker City. Thank you.

This was my first stop in Philadelphia longer than two days since the memorable Centennial Exposition in 1875. I was there a busy and delightful week and a day at the time of the big snowstorm of the winter, the guest of Wilfred and Mrs. Lewis. I made a point of reporting for the Thursday luncheon of the Technology Club of Philadelphia "at Wanamaker's Tea Room, eighth floor, southwest corner." Should the goodfellow who insisted on paying for my luncheon see this, he will confer a favor by writing me. I lost his name and class; sorry.

On my way south as well as on my return, I hobnobbed with the old guard at 17 Gramercy Park several days. I much regret to think it was for the last time. The men who have called this Technology Club home, and others, are sorely grieved that the Institute has now no haven of rest in New York. I did not meet a man, and I talked to several, who was keen to abandon this historic house, with nothing tangible in sight to fill the need. To me Gramercy Park is not out of the running, for I have cherished memories of the place. It is more convenient to reach or to go to other parts of the city than any desirable anchorage get-at-able in the uptown Park Avenue sweldom, and it is foolish to pretend otherwise.

In New Haven I called on Pierce. He had recently recovered from an annoying siege of grippe, which kept him at home several weeks. It was the first illness which prevented him from being at his desk in the nineteen years that he has been with the Union and New Haven Trust Company. He retains a lively interest in Technology, and is desirous to learn tidings of the ancients of '75.

Right Reverend Herbert H. H. Fox, Bishop

Coadjutor of Montana, to whom Goodale presented "The Tabernacle of the Testimony," and "The House Which King Solomon Built for Jehovah," by G. Wilton Lewis of our Class, writes, "I have read both books and they are extremely interesting. Mr. Lewis, who worked them out, has done it extremely well. The various accounts of the two are so fragmentary in the Old Testament that one has but a very vague idea after reading therein of the appearance of either of them. The Temple must have been a noble structure for the times in which it was built." On my table are these treasures, the gift of Goodale.

I am in Boston for the National Educational Association doings. It is expected to prove the largest gathering of educators ever assembled in the United States. Report has it that more than twenty thousand will attend. I plan to return to Greenfield by the tenth of March.

Hold the forms! Hibbard missed the Alumni Council Dinner the last Monday in February, going on the cruise de luxe of the Boston City Club to Panama and the West Indies. His attendance at the Council meetings is such a matter of course that this is an occasion for comment. — HENRY L. J. WARREN, *Secretary*, Greenfield Club, Greenfield, Mass.

'81 Our mammalogist, Ned Warren, has written a book on the beaver under the sponsorship of the Roosevelt Wild Life Experiment Station of the New York State College of Forestry at Syracuse University. It forms Volume Two of the Monographs of the American Society of Mammalogists. He has been working on this for the last

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twelve or fifteen years, giving almost his entire time to the beaver. It is rather a coincidence that the beaver is the "Technology Bird." — FRANK H. BRIGGS, *Secretary*, Hotel Puritan, 390 Commonwealth Avenue, Boston, Mass.

'87 Arthur R. Nickels has given up his position with the Sunnyside Mining Company in Eureka, Colo., one of the mines owned and operated by the United States Smelting and Refining Company, on account of the shutting down of the mine. He was assaying an oxidized lead-silver ore. He has recently sold his apple orchard in Dee, Ore., and was glad to get back to professional work. — J. Eugene Freeman is now an architect with an office in the Kohl Building, San Francisco.

Taintor has recently called on Howes, who appears to be very well, and would be pleased to see any of the boys who happen out that way. He is now located at 213 Main Street, Hingham, about two miles from his former location, on the main highway from Hingham to Accord. — W. S. Bliss writes Taintor that he is located at 805 Mills Building, San Francisco, and promises to send the Class a photograph of his grandson, son, and himself. — Lonsdale Green was recently at Hot Springs, Ark., which he says is the best place to rest that he has ever found.

Harry Brainerd has returned from a five months' sojourn in Europe, bringing back several paintings which he made there. Harry has a large house at Dover, Mass., and it will be well worth the while of any of the men passing through Dover to stop and see his paintings. A year ago he had an exhibition of his paintings at the Art Room, Wellesley College. — Merton G. Woodbury is living at 550 Main Street, Malden, Mass., and is now associated with the United States *Daily*, which is published in Washington, and gives a complete account of all the activities of the government.

Granger Whitney was in Boston a short time ago, visiting his brother-in-law, Roland W. Boyden. He called on some of the men and cheered them up by an account of the whaler, *Mozambique*.

John W. Stearns writes from Pendleton, Ind., reporting that he has been having a lot of trouble with an infected finger from a cut at the joint. A year ago an automobile ran into him, sliding him about forty feet along the pavement, resulting in a broken knee-cap, a broken collar bone, and a fractured skull. This was followed by a two months' sojourn in the hospital and a suit against the insurance company. The lawyers, doctors and hospital benefitted quite substantially, so that the final result was most unsatisfactory to the victim. John will be glad to see any of us if we are ever in Indianapolis, his headquarters.

William Douglas Windom died on October 25, 1926, following several months of illness caused by an affliction of the heart. His son, Paul Windom, writes that he was survived by his widow and four children. — Archie McColl of New Glasgow, N. S., writes that he is hoping to come to Boston before long.

Dr. J. L. Cornell of Tiney Point Farm, Centerville, Md., wishes to be remembered to the boys. If any of them should happen to

be touring through his part of the country, he would like to have them stop in and promise to show them a little Southern hospitality.

George Otis Draper, our popular and efficient Class Treasurer of over forty years' standing, is at present enjoying a Mediterranean cruise on the *Rotterdam*. After his arrival in Holland he plans to motor to Paris for an indefinite stay. George writes that he has not yet tired of being retired, though he finds that it is a bit strenuous.

George Alfred Knox passed away on January 3, at Washington, where he has for a number of years been connected with the Department of Ordnance. He had been suffering from a serious heart trouble for about two years, although he kept at his work until three days before his death, when he developed acute bronchitis and passed away very suddenly and without suffering. — EDWARD G. THOMAS, *Secretary*, Toledo Scale Company, Toledo, Ohio. NATHANIEL T. VERY, *Assistant Secretary*, 96 Bridge Street, Salem, Mass.

'89 The Class seems to be well represented in the Mutual Insurance field of Factory Fire Insurance. L. H. Kunhardt has recently been elected a director in the Fall River Manufacturers Mutual Insurance Company. He is thus serving on the same board with our classmates: Charles N. Borden, Treasurer of the Richard Borden Manufacturing Company; and Nathan Duffee, Assistant Treasurer of the American Printing Company and Borden Mills, Inc. The Fall River Company is one of the strong companies in the Factory Mutual Field. Kunhardt has been for many years Vice-President of the Boston Manufacturers Mutual Fire Insurance Company.

E. V. French is President of the Arkwright Mutual Fire Insurance Company and Franklin W. Hobbs is a director in the same company. Also, Frank L. Pierce was President of the What Cheer and Hope Mutual Insurance Companies at the time of his death, so that '89 has thus had six members of its Class associated with the fire protection work and insurance of the Factory Mutual System. — W. H. KILHAM, *Secretary*, 9 Park Street, Boston, Mass.

'91 A class dinner was held on Friday evening, December 30, at the University Club, Boston.

The following were present: Alley, Punchard, Bradlee, Barnes, F. Campbell Moore, Bowen, Wilder, Hatch, Wilson, Ryder, Fiske, Young, F. C. Holmes, Capen, Dana, Forbes, and Fuller.

Mr. Ford, Bursar at the Institute, was our guest, and he told us about the new dormitories and the need for more funds to build additional units. Information has already been sent out to the Alumni, and each class has now been asked to take up the matter as a class and provide funds for one or more rooms or floors. President Bradlee has appointed a special committee of our Class to go into this whole subject, as follows: Harry Young, Chairman; S. W. Wilder, Arthur Hatch. At the dinner it was announced that Morris Knowles has made a liberal subscription and a letter was read from Will Palmer agreeing to subscribe enough to pay for half of one of the

rooms or more if needed. Other subscriptions made at the dinner made it seem likely that '91 would furnish funds for several rooms which are estimated at \$2,200 each. Harry Young gave a blackboard exhibit of what other classes had done, and it was very clear that a number of classes, including our own, had not yet tackled the problem.

Arthur Alley was also our honored guest, and we were all very glad indeed to see him. He is looking fine and evidently the life and climate of Southern California agrees with him. He lives just outside of and near San Diego, and has a small fruit farm or ranch (he says everything from an acre up is called a ranch), and this keeps him busy. He spent a few weeks in the East with his brother, who has been ill at a hospital in Boston. Arthur wants us to remember San Diego and pay him a visit if we ever get out on the Pacific Coast.

Charles Ricker and Mrs. Ricker of Havana were in the North several weeks this winter. His boy is a senior at Technology. He went to Waterville, N. H., for winter sports. A few of his '91 friends gave him a luncheon at the University Club on January 13 with the following present: Bowen, Young, Garrison, Forbes, Wilder, Barnes, Fiske, and Hatch.

Barney Capen went to a private hospital early in the year for several months' treatment. The address is 135 Aspinwall Avenue, Brookline, telephone Regent 3563-W. He is glad to have callers at any time. A number of '91 men have been to see him. It is hoped that this will do him a lot of good. — Jim Swan is recuperating after a siege at the hospital and is probably back at his new work before this. — Charlie Aiken has been ill at his home, 42 Oak Street, Belmont, Mass., for several weeks. He was improving slowly at this writing and we hope he will be out again by the time you read this. — The course of lectures delivered by Robert Ball at M. I. T. has been printed. This covers three lectures: I — Science as a Foundation for Engineering Education; II — The Honors Degree System; III — Engineering Education in Great Britain. Copies can probably be obtained directly from the Institute. — Gorham Dana and Mrs. Dana are taking a trip to Cuba, Jamaica, and Nassau.

The following, accompanied by several illustrations, appeared in the Boston *Evening Transcript* of February 25, 1928: "Arthur E. Hatch, who is a member of the American Society of Civil Engineers and who long has been interested in the problem of securing for a comparatively small house all advantages of large modern office building construction, is having built for him a home in Hillsfield, Brookline. With this idea in view, Mr. Hatch, assisted by the architect, George C. Glover ['99], has broken away from present popular combinations and has used no lumber in connection with his new home except for a few partition doors and the roof supports. Mr. Hatch claims that at practically no extra cost he has succeeded in securing fireproof construction. . . ." — HENRY A. FISKE, *Secretary*, Grinnell Company, 260 West Exchange Street, Providence, R. I.

'93 Herbert N. Dawes is President of the Investment Trust Securities Corporation. An announcement states that the corporation was "chartered under date of October 11, 1927, and will conduct an invest-

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ment and trading business, specializing in investment trust securities." His new business address is First National Bank Building, 1 Federal Street, Boston.

On the first of the year, Jim Emery was elected to the Board of Directors of Ford, Bacon, and Davis, Incorporated, of New York. The firm of Ford and Bacon was organized in 1894 by Frank R. Ford, University of Pennsylvania, '91, and George W. Bacon, Cornell, '92. Soon after George H. Davis, Cornell, '92, was admitted. From its beginning the firm took a prominent position in the public utilities field, but its scope has been broadened to cover nearly all branches of engineering, management, and financing for public utilities and industrials. In 1912, three new partners were admitted—Charles F. Uebelacker, Princeton, '90, Charles N. Black, Princeton, '88, and William van Phul, Tulane, '93. The firm was incorporated in 1921, the six members becoming directors. And now on this board composed of able representatives of other colleges, Technology is represented by James A. Emery, '93.

Only recently have we learned of the death on April 17, 1927, of Charles H. Hoyt of Beverly, Mass. He was a Course II man, and was associated with the Class from 1889 to 1892. For many years he was in the employ of the United Shoe Machinery Corporation as an inventor. These meagre facts are all that are known to us. The Secretary would be glad to receive more detailed information.

An illustrated article in the Boston *Evening Transcript* of January 14 under the caption "Sports" brings into prominence the name of Henry A. Morss. But there is no cause for alarm—it is Henry as a yachtsman, not in any new line of sport. The text of the article describing his "Staunch Yacht for Off-Shore Cruising" is as follows: "Designed for heavy, off-shore duty, this motor yacht, which is now under construction at the George Lawley and Son Corporation yard in Neponset, is the result of long and varied cruising experience by her owner, Henry A. Morss, well-known Boston business man. She was designed by Eldridge-McInnis of this city and contains several novel features.

"A somewhat unusual arrangement of the superstructure, together with a stern of the English steam yacht transom type, and an overhanging bow, gives her an appearance quite out of the ordinary. By sinking the floor of the dining saloon, immediately aft of the pilot house, one step below the main deck, it is possible to have windows in the after end of the pilot house, thus giving the officers a clear view astern. A foremast somewhat higher than the mizzenmast adds to her distinctive aspect. . . . With 1,500 gallons of gasoline in her tanks the yacht will have a cruising radius of 1,200 miles. She has complete electrical equipment, including an electric windlass and ice machine. An unusual feature is the automatic fire extinguisher system."

Charles Winthrop Sawyer's name again appears as author of a special article in the Boston *Evening Transcript*. We are accustomed to thinking of Sawyer as an authority on firearms and the history of firearms, but in the *Transcript* of February 21 he writes very entertainingly upon "How We Know About Washington's Boyhood."

Among the best sellers for 1928 should be the new third edition of Spofford's "Theory

of Structures." New material on arches is included and the chapters on elastic loads and on space framework present these subjects for the first time in English. Since its first publication in 1911, it has been accepted and respected as a standard work on structural design. It is in use as a textbook in many of the engineering colleges of the United States and abroad.

We have recently learned that our classmate, T. Torrosian, who is practising engineering at Lome, Bulgaria, is no mean linguist—he speaks and writes the Armenian, Bulgarian, English, French, Russian, and Turkish languages, and understands both German and Persian.

We have been notified by the Alumni Office of these changes of address: Samuel H. Brockunier, 66 Martin Street, Cambridge, Mass.; J. Fred Hinkley, 1420 Park Avenue, Hoboken, N. J.—FREDERIC H. FAY, Secretary, 44 School Street, Boston, Mass. GEORGE B. GLIDDEN, Assistant Secretary, P. O. Box 1604, Boston, Mass.

'95 There were two reasons why The Technology Review of March omitted the 1895 Class Notes: first, there was little of note to report; and second, your Secretary was in Washington calling on President Coolidge, in order to be photographed with the President and others at the Convention of the National Association of Dyers and Cleaners. This omission must be classed as pardonable under the circumstances.

The Annual Dinner of the Alumni Association at the Boston Chamber of Commerce, on January 7, brought thirteen of the faithful together again: C. W. Berry, T. B. Booth, F. A. Bourne, Gus Clapp, Eugene Clapp, A. D. Fuller, F. A. Hannah, S. P. Hunt, E. L. Hurd, H. D. Jackson, W. D. Parker, W. H. Watkins, L. K. Yoder. We hope in another year the dinner will be held at Walker Memorial, when we should double this attendance.

I received a very delightful letter from Gerard H. Matthes, Explorers Club, New York City, and I will quote a part of it: "I have joined the ranks of the grandfathers since you last heard from me. I have a cowboy grandson out in Arizona, who is going to be a high stepper. He lives a mile above sea level. At two months his dad took him into the saddle and gave him his first ride, and now his mother sends me an SOS for a new horse, for he has already worn out his first one (an inflatable rubber toy cayuse), and, since New York is temporarily out of inflatable horses, I am sending him a pig instead. I expect to hear squeals all the way from Arizona.

"I still find myself in a spread-out condition, with lots of business in New York to attend to, and with a wife and home in California. With fast trains and air mail service, such a little matter as the width of the United States is no impediment to marital happiness. Possibly, when air travel picks up a little I may commute over to Hollywood to spend week-ends at home.

"Most of my time nowadays goes to water power engineering, and in that connection I want to say a word of appreciation about Harold K. Barrows's new book on water power. I keep it handy. It has a world of information in it, as near up-to-date as it is possible for a textbook covering a branch of

engineering in which such constant progress is being made, and all of it is expressed in that simple, clear way of Harold's. The book was mentioned in the last issue of The Technology Review. Its title is 'Water Power Engineering,' and the publisher is the McGraw-Hill Book Company. I wonder how many there are in our Class who know about this book, or whether any other classmate has gotten out a book?"

While Dr. Charles G. Abbot is listed as 1894 in the Register of Former Students, the Class of 1895 has an equal interest in his post-graduate work with us. The New York *Times* of February 12 records his appointment as Secretary of the Smithsonian Institution in part as follows:

"He was born a month before Calvin Coolidge, and seventy-five miles distant from the Vermont farm of the Coolidge family. Before he was old enough to work on the farm, young Abbot's passion was for mechanics. At thirteen, ambitious to own a bicycle which he could not afford to buy, he made one. He first had to build himself a forge. The high-wheeled wooden 'bike' with its iron tires took two years of his spare time to construct, but it ran well. The boy's mind was as active as his hands. He absorbed all that the country district school at Wilton, N. H., had to offer, and he taught himself trigonometry and calculus with the aid of a textbook. In a year at Andover he distinguished himself in a prize oratorical contest and won second place in an English competition.

"He was graduated in 1894 at Technology, and in 1895, after Dr. Abbot had completed a year of graduate work at the Institute, Secretary Langley of the Smithsonian wrote to Professor Charles R. Cross asking him to recommend an assistant for the Smithsonian's Astrophysical Observatory. Cross said that though the Institute of Technology regretted losing Abbot, they thought he would be the best man.

"The exacting nature of Dr. Abbot's scientific labors of thirty-three years has by no means shut him off from a broad and sympathetic contact with life. Believing that science draws its support from the public, he has written many popular books on science."

From the Boston *Globe* of December 23, 1927, we have the announcement that Charles M. Adams, '95, has been appointed Registrar of the Wentworth Institute in Boston.—We refer our readers to the interesting paper entitled, "The O'Shaughnessy Dam and Reservoir," presented at the fall meeting of the American Society of Civil Engineers, on October 12, 1927, in Columbus, Ohio, by John H. Gregory, consulting engineer of Baltimore, Md. This article is now published in the February *Proceedings* of the Society. The paper was written in collaboration with Messrs. C. B. Hoover and C. B. Cornell. During the years 1904 to 1909 John H. Gregory had charge of the design and construction of the improved water and sewerage works in Columbus, Ohio, and this paper on the O'Shaughnessy Dam carries along an enlargement of the works originally built at that time.

John Williamson Cooke has severed his connection with the Gould Storage Battery Company of Depew, N. Y. He can be found at 35 Church Street, Lancaster, N. Y., where he will be glad to hear from any of his classmates.

We deeply regret to announce in these rec-

1895 Continued

ords the death of our classmate, Harry Merritt Haven, on February 6, at his home, 212 Main Street, in Winchester, Mass. He was founder and President of the H. M. Haven and A. T. Hopkins, Incorporated, located at 11 Beacon Street, Boston. He prepared for his life work at the Institute in Course II, and had been engaged in the engineering business for more than twenty-five years. He was a member of the American Society of Mechanical Engineers and the Boston City Club. He met his death from the effects of carbon monoxide poisoning, after an illness of ten days.

He leaves his widow and three sons: Franklin, M. I. T. '23; Roger, a senior still at the Institute; and Gilman of high school age. The funeral was held at the Unitarian Church in Winchester on February 9. Wallace C. Brackett, T. B. Booth, Luther Conant, and W. J. Drisko of our Class attended the funeral. LUTHER K. YODER, *Secretary*, Chandler Machine Company, Ayer, Mass.

'96 It is with much regret that we have to report the death of Miss Grace A. Norris, who died rather suddenly on Friday, February 10, 1928. She had been sick with measles for only a few days. Miss Norris will be recalled as one of our classmates who was with us throughout our four years and who was a loyal member of the Alumni Association, a loyal member of the Class, and a prominent member of the M. I. T. Women's Association. She appeared frequently at Alumni Meetings. She has always lived in Chelsea and has been continuously engaged in city affairs, having held the position of Secretary of the Board of Assessors of the City of Chelsea. Her activities were broad as she was a member of the Chelsea Women's Club, the Appalachian Mountain Club, the Field and Forest Club, a corporator of the County Savings Bank of Chelsea, and the Corresponding Secretary of the M. I. T. Women's Association.

In the case of young Edwin Palmer, whom the Class is assisting toward the recovery of his health, the schedule for the year has been laid out and the necessary funds provided. He had reached the point in age where he was beyond the clinic of the Children's Hospital. He has, therefore, been put in charge of Dr. Rockwell, to whom he goes twice a week for ultra-violet treatment, which Dr. Rockwell gives absolutely free along with the supervision of the boy's schedule. In addition to this, the boy spends two hours each week taking exercises under the supervision of a masseur who specializes in Edwin's trouble. The class fund goes toward the payment of the masseur and toward the payment of special shoes and special food which Edwin requires.

The Secretary spent three days in New York in February in attendance at the annual convention of the American Institute of Mining and Metallurgical Engineers. This is a rather strenuous time and no opportunity was found to call upon classmates in the city, but fortunately three '96 men turned up at the meeting, namely, Bakenhus, Burgess, and Laws. Laws is with the Nichols Copper Company and reported that, like every one else in New York, he is hustling all the time. His situation has improved somewhat over last year, when classmates will recall that he found it impossible to play his cornet because

of the complaints of the neighbors. It is now understood that he can withdraw to a place where the neighbors cannot complain, and he can blow to his heart's content. Burgess had a lot of things to report regarding the work of the Bureau of Standards, but the chief item was on the success of the Bureau's attempt to cast a large block of telescope glass. This was featured in the daily papers and in the Sunday picture supplements [and in the March Review — The Editors] which showed Burgess having his picture taken alongside of the glass as it was being uncovered after a period of several months of slow cooling. He says that everything has been successful so far, and there seems no reason why they will not be able to carry their experiment through to a very satisfactory ending and obtain a high-grade piece of glass for the telescopic work. Bakenhus is enjoying his first experience as a resident of New York, and he says that as long as he is to be a New Yorker he is going to be a 100 per cent New Yorker and live on the Island of Manhattan rather than commute from Flatbush, Yonkers, or the wilds of New Jersey. He, therefore, has secured a little apartment on Gramercy Park quite near the Technology Club, and like all of the residents of the Park, he has his little key which allows him to enter the sacred confines of the Park itself. He saw Trout not long ago and has also run across Crocker, who is running the Municipal Ferries. It was interesting to hear from Crocker as he is a man who has not turned up at any class gatherings in recent years although showing his class loyalty in other ways. Bakenhus reported that Crocker is just the same chap that we knew thirty years ago. The *Journal of the Society of Automotive Engineers* for February gave an account of the annual meeting of the Society in Detroit, January 24, 1928, and included a picture of the newly-elected president, William Guy Wall, together with excerpts from a presidential address. The picture was an excellent likeness, and the speech also was interesting.

Not to be outdone by Coolidge, Wayne is starting a collection of decorations. The *Indianapolis Times* of January 12, 1928, showed a picture of Wayne receiving the "30-year Service Emblem" from C. R. Woods, the General Superintendent of Traffic of the Indianapolis Bell Telephone Company. Wayne began work with the New York Telephone Company immediately after graduation and his continuous service in various parts of the Bell System made him eligible for the "30-year Service Emblem" on December 20, 1927.

Dr. Coolidge's latest accession is the Edison Medal, which was presented to him at a meeting of the American Institute of Electrical Engineers on February 15 for his contributions to incandescent electric lighting and x-ray arts. The newspapers featured this presentation so that it hardly seems necessary to describe it in detail or go into at length the address delivered by Dr. Coolidge at the time. According to the newspapers, he predicted that very shortly, by the development of his new form of cathode ray tube, we may obtain artificial rays similar to radium rays in quantities that could be obtained only from a ton of radium. By the ingenious device of cascading or using his tube in series, he has already operated at 900,000 volts. Previously the limita-

tion of a single tube was 250,000 volts, but the tandem arrangement offers tremendous possibilities in the increase of the rays produced. So far three tubes have been used to obtain the effect of 900,000 volts, but there are no difficulties in using more tubes and reaching correspondingly higher voltages.

According to the newspapers, Butler Ames is to be one of the seven alternates at large for Massachusetts to attend the Republican National Convention for the nomination of a President. — Classmates who listen in on the radio may have noted that, beginning with February, a half-hour program of music is put on the air from station WEAJ in New York and other stations in a chain at 10:30 Monday nights under the title of Fisk's "Time To Retire Boys" but sponsored, of course, by Harry Fisk's Rubber Company. If Harry wants to make it real interesting he ought to appear some night in person and broadcast some of his famous drum music.

We have tried to keep Gene Hultman out of print, but it seems to be absolutely impossible. Last year we reported how he undertook to attend a theatre party following a dinner, but actually was chasing fires all night, so that his only dinner was a grab lunch from the pantry when he arrived home in the small hours of the morning. Attempts to observe special events seem to be futile. This year he was all toggled out in his evening clothes for a theatre party to celebrate the wedding anniversary of his brother, but a two-alarm fire side-tracked his plans, and at the fire he was unfortunate enough to be in direct line with a three-inch hose line that burst at his feet, with the result that instead of going to the theatre he had to go home and change his clothes. Hultman sailed with Mrs. Hultman, February 24, on the new Italian motor liner, *Saturnia*, of the Kosulich line for a four-weeks' cruise to the Mediterranean. Their departure was fittingly observed by whistles and water display on the part of the three Boston fire boats.

A last minute report has been received of the death on February 23 of our noted classmate, Mrs. Alice P. Norton, who was a pioneer in the field of home economics. A review of her life will appear in the next issue of *The Review*. — CHARLES E. LOCKE, *Secretary*, Room 8-109, M. I. T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden City, Cambridge, Mass.

'97 W. R. Wood writes with unpardonable modesty that if he took literally my request for information about his movements he would bore us to death, and quotes words which sound like the title to some sentimental song of the vintage of about 1897 — "Just tell them that you saw me and they will know the rest." In spite of the meagerness of direct news from him, however, his old friends will be interested in knowing that he is living in Berkeley, Calif.

When we were at Technology back in the '90's it was never imagined that seekers after engineering knowledge would find their careers as tillers of the soil. The following letter from E. P. Osgood, who now lives in Fallon, Nevada, demonstrates how little prescience we possess: "Your letter got back to me in the San Luis Valley, Colo. (a valley only the size of Connecticut, by the way), in

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which I was hurrying to finish gathering data relative to the consumption of the waters of the Rio Grande by irrigation prior to that time when the thermometer would descend to zero. It went to twenty-eight below, but, as the real low-down of forty had not yet been reached when I left for Denver, I voted myself lucky at that.

"Now I am probably too late for you, but I will drop a line, anyway, with the chance before me to catch up, which is why I brought my portable with me on the train. My education in 'Back to the Land' is still proceeding apace for, though now engaged on a study of the Rio Grande for the States of New Mexico and Texas in the adjustment of the apportionment of the rights that must be recognized by Colorado, nevertheless we still have our rancho — the 'E. P. Betty' on the old U. S. R. S. Reclamation Project, the Truckee-Carson Project, now called the Newlands Project. And I am pleased to report that with the help of my sons and my wife, in fact of the whole family of seven of us, we rescued it from the oblivion threatened by leasers and can now call it a success — in as far as farming can be called a success. Of course as farmers we will grow up some day and be properly paid, the same as any other industry, for the overheads and the double hours, and then be a real success, but at present, in our generation, we can probably only hope for health and some other satisfactions from the life. It might be summed up for some that it is a great life if you don't get tired. As ours is a Holstein Dairy ranch, a real milking machine saved us just in time.

"But if any of my classmates are in danger of going back to the land, my advice would be — don't, unless they are strictly lowbrows and practical, and also unless they are also strictly highbrows in being philosophers.

"Perhaps you will be interested or amused to know that our greatest success and our real money is at present in turkeys, the raising of which has slipped in New England and the East. Our chief interest is, or should be, the construction of Boulder Dam for power and irrigation, its two actual real purposes, which should be pushed to their ultimate for the benefit of the West and the country, and for the making of our sturdy sons for the next expeditionary force for Europe, but here again we are not yet grown up and will probably meekly accept the advice that for us Boulder Dam should be developed only for flood protection and irrigation.

"Do you know, I have not yet seen the New Technology, though having got around the world, so of course I plan when we sell our prospect mine in Nevada (of course we wouldn't be in fashion if we didn't have one there) and have some real money we will start around again, and one of the first stops will be Boston and the Old or New Technology. I am hoping for that happy consummation and the pleasure of seeing you and many other classmates of '97."

Still another '97 man who has found his metier in farming pursuits is Ethan H. Howard, who operates a fruit ranch on the Niagara River at Youngstown, N. Y., and who gives the following account of himself: "The old saying, 'Happy in the country that has no history,' is pretty well exemplified in my life since leaving Technology, and I

have little to tell of interest. My life goes on quietly and pleasantly, with the pleasures of farm and garden, and the hard work of golf and tennis to take up most of my time. Sometimes I feel as if I would like more of that kind of hard work and less of the aforementioned pleasure. It may make John Collins feel younger to hear that I have no more grandchildren than I had last June.

"To get back to facts asked for, the greatest event of the past year for me was the Reunion at Old Lyme, and I certainly mean to attend all in the future that I possibly can.

"As most of the '97 boys know, I live where I have ever since graduation, on the Niagara River, about ten miles north of Niagara Falls, and, as I hope they believe, though very few have put it to the test, my wife and I are always very glad to see any member of the Class. I have noticed many times that '97 items were conspicuous by their absence, and I always regret it, and would be very glad if I had more to send in. No member of the Class enjoys more than I do the letters and notes that do appear."

The great versatility of '97 men and the breadth of the foundation laid by a course at Technology as well as the wisdom of continuing the despised course in "Pol. Econ." is demonstrated by this letter from Edward Alleyne Sumner, who spends most of his time in Paris, France, but who comes to America a few times a year to attend directors' meetings and incidentally to humiliate, on the golf course, the editor of these notes. Teddy writes from Paris as follows: "Things have been bumping along about as usual over here except that the low spots (barring Russia, still in the throes of economic fallacies) are being steadily smoothed out and European business is again a going concern. This last year I have been plugging along with my pastime (thanks to Professor Dewey) of political economy, going to Geneva for the World Economic Conference and to Stockholm for the Congress of the International Chamber of Commerce, trying to keep pace with that wonderful bit of development work, the Dawes Plan (more power to it and less unintelligent criticism).

"Some fellows at home don't realize that Americans over here are really trying to carry on. There are ten to fifteen thousand Americans at least temporarily resident here — the American Club alone having a membership of 750, and most of them are decidedly active in business. Those like yours truly who are out of active business get all sorts of odd jobs tacked on to them. Let me recite a few that I have been let in for. The American Club is not only a get-together weekly luncheon club but has become a forum of public opinion that draws the best of speakers of all nationalities and is also a press feeder of no small portent. The American Library in Paris fills not only the usual field but publishes fortnightly the 'European Economic and Political Survey' that is becoming a standard for reference. The Cathedral of Holy Trinity is doing worthwhile work among American students in Paris, and their Boy Scout Troop gives the lads of our business colony a bit of the real stuff that helps to keep up their American spirit. As a member of the Executive Committee of the first, a trustee of the second and a vestryman of the third, I know something of their utility.

"I slipped over recently for a week in England to hunt with the Quorn and Bicester Hounds, took in a pheasant shoot and had a round of golf just to satisfy myself that I am still serviceable, in recognition of Professor Bernard, who could not help my French (woe's to the present day) but did take an effective interest in our sports."

The Class will be grieved to learn of the untimely death of Walter Bush, who succumbed to pneumonia at his home in Concord, Mass., on February 16. For several years he lived in Baltimore, where he was manager of the Baltimore Tube Company. He has more recently been associated with Burchell, Gillies, and Gaudette, Incorporated, of Boston, as a consulting engineer. He leaves Mrs. Bush, a daughter, Margaret, and a son, Walter M., Jr. Walter was born in Lima, Peru, December 22, 1873. He attended Harvard two years before entering Technology. Fortunate are we who have known him best. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 261 Franklin Street, Boston, Mass. C. B. BREED, *Secretary pro tem*, Room 1-339, M. I. T., Cambridge, Mass.

'99 There is an abundance of news for the April issue, thanks to the hearty coöperation of a widely scattered group of correspondents. Tommy Lennan writes from Joplin, Mo., in response to what he is pleased to term my "piteous" appeal, that Norman P. Rood had been out there for about ten days on the first visit he has made there for some time. As Joplin was his stamping ground about twenty-five years ago, they had a good time going over the situation together. Tommy says that all of his friends there, who had not seen him for twenty years, agreed that Norman had not aged at all, and the only way he had changed was to become better looking. (Page Elizabeth Arden.) After a complete discussion of the plans for the Thirtieth Reunion, Tommy and Norman agreed that they would be willing to do anything that the rest did, and go wherever the crowd did.

Charles Drew was the first to respond to my appeal, though he saw fit to omit "piteous" from his reply. I take it that he is cautious about adjectives — an excellent trait sometimes. Charles is living at 2 Ash Street, Flushing, N. Y., and his welcome contribution in his own words is as follows: "Since leaving the A. E. F. in May, 1919, I have been with the City of New York. My first assignment was to clean up contracts which had been executed under great difficulties due to war conditions, and I was in charge of the Tunnel Division. In August, 1921, I was taken over by the Board of Estimates as principal assistant to the tunnel engineer, on the planning and construction of the proposed Freight and Passenger Tunnel to connect the New York Connecting Railway in Long Island (Hell Gate route), with the trunk lines in New Jersey west of Staten Island. Incidentally this line was planned to furnish excellent rapid transit service from the north-central part of Staten Island to the B. M. T. subway in Fourth Avenue, Brooklyn. We sank two shafts at an expenditure of \$1,250,000, condemned a right-of-way

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through Staten Island at a cost of \$2,500,000 and were ready to advertise for bids for the two twenty-four-foot tubes under the Narrows, when the project was legislated out of existence in 1925. Since that time I have been senior assistant division engineer in the Tunnel Division of the Board of Transportation, who are building the new city-owned subways. Our Division is now handling over \$40,000,000 worth of difficult tunnel work, with a similar amount in prospect. We have taken on a number of young Technology graduates who are making good."

The above is good news. Your Secretary read it with interest tinged with the fear that Drew may wait ten years to write again. It is hoped that the spirit will move him to send some small item for the May issue, and the same hope is entertained in respect to all readers of the column.

Burt Rickards, Director of the Division of Public Health Education of the State of New York, came nobly to my rescue. Burt advises me that the first statement of my recent telegram was ambiguous. My metaphor was mixed and he could not decide just what I was supposed to personify. Burt has nothing on me—I didn't know either. If Burt had been running the column for '99 he would appreciate mixed feelings as well as mixed metaphors. However, his criticism was most apt and welcome. It shows that he read my telegram. He sent me the following "bones:"

"On January 19, Orville B. Denison, '11, Secretary-Treasurer of the Alumni Association, spoke to the high schools boys and the boys of the Albany Academy (established 113 years ago) on 'The Value of a Technical Education.' As a result, I know there are a number of these young men who are now giving thought to Technology who never considered it before.

"At noon, on January 19, the Albany members of the Eastern New York Technology Association gave a luncheon to Denison, and it was voted to form an association for Albany and the immediate vicinity, as Schenectady is too far away for a practical meeting place. The twenty-odd Technology men present voted unanimously to form such an association, and a meeting was scheduled for February 16 at the University Club in Albany to complete the plans."—Burt had an article in the January 19 issue of the *Boston Medical and Surgical Journal* entitled "Dr. Samuel H. Durgin—A Health Pioneer." Dr. Durgin was health commissioner of Boston while Burt was in charge of the city laboratories.

The notice has come to my desk that Warren M. Archibald, acting city engineer of Medford, Mass., died of heart trouble on January 16.

Norman Seavey writes as follows from Dover, N. H.: "When I received your telegram this morning it made me feel that you were rather desperate for news and that, in such a condition, you would be ready to receive a communication from me, which, if news were plenty, might be thrown into the wastebasket. My family lived last summer at Rye Beach, N. H. I commuted by automobile back and forth, spending as much time with them as possible. While there, I renewed my acquaintance with two of our classmates. One was Russell Sawyer and the other was Carroll Brown.

"Sawyer owns and operates what he calls a boarding house, but I should classify it as a small hotel. It is located a short distance back from the beach and, being on rising ground, has a beautiful view of the New Hampshire coast. When I saw him in July he informed me that he was fully booked for all of August, which meant, for him, a prosperous season's work.

"Carroll Brown's home, when he was at Technology, was at Rye Beach. He is now located at Cleveland, Ohio, with the Brown Hoisting Company, with whom he has been for many years. When I was in Cleveland in 1925, I called on him, thereby renewing the acquaintance made at the Class Reunion of 1924. For the past several years Carroll has brought his family to Rye for the entire summer to visit with his people. He has a splendid family of three sons and a daughter, not forgetting Mrs. Brown, who is a very pleasing lady and a most excellent mother. Mrs. Seavey and I feel rich in the friendship which we have developed with the Brown family and we are looking forward to renewing it this next summer when they come to Rye.

"As for myself, there is not much to say. When not engaged in the routine of the hardware business, I busy myself in work for the community such as Rotary Club, Chamber of Commerce, church, Y. M. C. A., Boys' Recreational Center, School Committee, and so forth. I hope that some of the fellows will, when passing this way, look me up, and, if they don't, I shall hope to see you all at the Reunion next year."

Norman has never edited a column. If he had he would never intimate that "news" would be routed through the wastebasket. Take notice, readers all, that Norman expects to see you at the Reunion in 1929. So does the Committee and your Secretary.

Harry K. White, of Wilder and White, Architects, New York City, contributed the following: "Answering your urgent appeal of the thirteenth and with the sole hope of easing your peace of mind, which I gather needs easing, it may be of interest to some of the members of our Class to turn to the *National Geographic Magazine* for January, where on page 37 is reproduced a bird's-eye view of the Washington State Capitol group of buildings at Olympia, taken from the plane of Colonel Lindbergh on his recent transcontinental flight.

"This, as I think you know, is the work of my firm and has engaged a considerable part of my attention for the past few years. The group at the present time is but about 60 per cent complete, three additional buildings remaining to be built around the central Legislative Building as the needs of the State demand. Washington State is the first of our states to adopt the group plan for its capitol, the wisdom of this course having already been fully justified. When completed, this capitol group will possess a dignity and grandeur unrivalled, I believe, by the capitols of older states."

Jacob Stone of Minneapolis writes that he hasn't had the pleasure of seeing a '99 man for months, although he managed on his last trip to New York to get around and see Clifford Swan, Harry K. White and some of the other Technology men. He says that he has recently seen photographs of the Washington State Capitol group mentioned so

modestly by Harry White, and of it Stone says: "It would tickle me to death to have a monument of that sort to my credit." He continues: "As it is, my only monuments, which have been built recently, are some glassware houses for the Pittsburgh Plate Glass Company, one in Mount Vernon, N. Y., and one in St. Louis, Mo."

Walter Whitney, of Newton, Mass., was in Cleveland last month and says: "I called on Stanley Motch at his office, and had a nice chat with him. We talked over the plans for the Thirtieth Reunion. Stanley favors having the Reunion down on the Cape. We arranged to have lunch together the next day, and as I found the Cleveland Alumni were to have a lunch at the Allerton Club, I suggested we take that in. Stanley showed up with Merryweather, '96, but we looked in vain for any other Technology men, so started in and had a very pleasant time together. Tried to get Carroll Brown, but he was busy and unable, at the last minute, to come. I see Ben Hinckley quite frequently, and as he is no longer on the Newton Board of Aldermen he should have time to write you a story."

If the appeal that has been termed "pitiful," "desperate" and "urgent" in turn had done nothing else it would have justified itself in inciting Rose A. Carrigan, Boston Public Schools, to contribute her bit to the column and the prestige of '99. Her story follows: "Do you wish news from a woman member of the Class of '99? If you do, I'm glad to tell you a little about my work. You can guess what my field is from the official heading of this paper. I am enjoying the administration of a city school district in which are both Elementary and Junior High departments under the care of forty teachers. The pupils are housed in three main buildings and three portable structures.

"At present we are expending much energy in the teaching of 'Citizenship through the Development of Character,' and in piano instruction given to groups of fifty pupils, forty-nine of whom work at silent keyboards while the fiftieth plays upon the piano. Our course of study in Citizenship was one of the first of its kind in this country. As a member of the committee assigned to the preparation of the course, I had the honor of submitting the original manuscript. As approved by the Committee it is now known as Boston School Document, 'Citizenship through Character Development,' Grades I through VIII.

"The course in piano instruction is the only plan of its kind in the United States. The originator, Professor H. S. Wilder, is our teacher. He has designed the keyboards, and attempts the teaching at one time of an entire class, regardless of the presence or absence of musical talent in individual pupils. We believe in the general educative influence of the lessons. The idea and the plan are of recent development. In the strictest sense, it is news."

Diary of Arthur Little Hamilton: Prefatory Note: "Having decided that business called me to Paris I announced same to the family. Family decided that on account of the state of my health (or for other reasons) it would be desirable that I have a companion. It was agreed by said family and finally assented to by me that Tom Robinson being of a known high character and very courteous by nature would be a desirable companion. Said T. R.

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notified, accepted and appointed a rendezvous in New York City for the day before sailing.

"August 17: Met T. R. by appointment at the Grand Central Station at 6:10 P.M. Dinner and dance in Brooklyn until 11:30 P.M. Embarked 11:55 Hamburg-American liner, *Albert Ballin*. Cast off at 12:00 midnight. Went immediately to bed at 4:00 A.M.

"August 18: T. R. overslept. Overslept myself, but not as long as T. R. Took advantage of his condition to dress and look over the passengers by myself. Have discovered in the past that the pleasure of a voyage depends in great part on making the right acquaintances among the passengers. Felt that my judgment in this matter was better than that of T. R. Thought conflict might be avoided if I did the picking before he began. In the morning weather was rough and comparatively few passengers were in evidence for breakfast. . . . There is evidently no need to hurry about picking our traveling companions, as T. R. is not likely to interfere with selection for at least twenty-four hours. Tried various sports unsuccessfully by reason of the movement of the ship. When things began to look too uneasy I went below and got in bed and had lunch served in the state room. T. R. decided he wanted a diet. It seemed to be a good time to teach him how to ask for orange juice in French, so he learned by heart the following: 'Deux oranges pressés dans un verre, sans glace, sans sucre, et sans l'eau.' This will fit him to spend a month in Paris. He decided he could do without dinner and I generously gave up the idea of having any myself in order to keep him company.

"August 19: T. R. kept to his state room, and I kept him company, so his feelings wouldn't get hurt."

This diary will be continued in the May issue. — W. M. CORSE, *Secretary*, 810 18th Street, Washington, D. C. A. H. BROWN, *Assistant Secretary*, 53 State Street, Boston, Mass.

'01 I have just received a letter from Fred Clapp who, as some of you may remember, is now in Persia. I excerpt a portion of this, as it is extremely interesting, and those of you who plan to spend vacations there will get some valuable tips from Fred's letter. I call attention particularly to his remarks dealing with the commissary.

"My journey through the northern provinces of Persia proved interesting, but I suggest looking at the map of Persia before trying to grasp what I shall say. The great Elburz Range of mountains extends east and west across the north of Persia, separating the high plateaus of central Persia from a belt of narrow lowland at the north, which, on the shores of the Caspian Sea, is nearly 100 feet below ocean level. Consequently, radically different climatic and living conditions prevail. The climate of the southern side of the range is dry, that to the north is wet. The south side is devoid of vegetation, the north side is forested from top to bottom and the foothills and plains are grassed, treed, or cultivated to the sea. The south side is sparsely settled, the north side is a prosperous (for the Orient) district. Thus, when I passed over the Feruz Kuh (mountain pass) and descended 7,500 feet to the plains of Mazan-

daran Province one afternoon in November, the clouds lay far below me (at least a mile vertically, I should say), and before long the clear skies of central Persia were exchanged for the moist atmosphere of the Coastal Plain. Thereafter, for six weeks, the weather was more frequently rainy than pleasant, and muddy roads constituted the rule. Using the tow rope to pull one automobile out of the mud with the aid of the other became an old story; but thanks to the trusty Dodge and Graham and two good chauffeurs, only one night was spent in a swamp.

"Hunting is fine. Ducks, grouse, geese, partridges, and pheasants were shot daily, the best record being eighteen sand grouse in two shots; and, naturally, the party lived on game. The oranges of Afschraft and the district of Tunicabon are the equal of the best Californias or Indian Rivers. The people are very hospitable and, were it not for the fact that they actually force the weary American traveler to eat their greasy native food every night and morning, their houses would be appreciated. By way of escape I resorted to the tea houses or inns, or got the police to find me a house away from the hospitality of these well-meaning Persian officials. Carrying along a cook trained in an American family, I was able then to live in peace. Ten days at a stretch on mule back varied the monotony."

I have just heard from Charlie Auer, who is in private practice in El Paso, Texas. He gives his professional activity as that of a mining and metallurgical engineer. He is also Major in the Chemical Warfare Service in the Reserve. Both of these activities undoubtedly are of service to him when he crosses the river to Juarez. Charlie is preparing a series of reminiscences on distinguished Americans whom he has met there, some of which, at least, will ultimately appear in these columns. When one considers that this former tiny village has now become the Mecca of the whole American continent south of the Canadian border, it is evident that one who sits in the gateway has unusual opportunities for meeting the rank, beauty, and fashion of these United States. I understand that the next meeting of the American Mathematical Society is to be held there and will be devoted to a symposium on certain problems of permutation and combination. The American Physical Society plans also to visit this region in the near future, holding a joint session with the Hydraulic Engineers relative to the problems of liquid capacities and coefficients of absorption. The Society for the Study of Genetics is conducting a field survey, while the American Public Health Association is struggling actively to maintain it. But why continue. A visit to Juarez carries with it all of the advantages of a pilgrimage to the shrine of Islam with the sole exception that it does not carry the right to wear the green turban of the Hadj, and I understand that the Mystic Order of the Shrine is looking into this detail with, of course, a change of color.

Lammot du Pont is heard of from time to time, and has recently been in Europe. The members of his family acquire reflected glory. Just now it is a daughter, who is about to enter matrimony, while cousin Hounsfield has just been heard from at 175 North Keats Street, Louisville, Ky. We congratulate Lammot on the first event and extend the best wishes of the Class to little daughter.

Frank Holmes has moved to 250 Stuart Street, Boston, where all the supporters of the Jacobite cause are gradually assembling. When one wanders through his neighborhood, the lilt of the bagpipe is heard in the land, while the contiguity of the Hotel Statler lends an added charm. They broadcast from the roof there and also from the lobby. Frank is President and Treasurer of the Power Equipment Company of Boston; President of the General Equipment Company of Tampa, Fla.; Treasurer of the New Haven Nash Corporation; and also Treasurer of the well-known Scandinavian firm of Shaughnessy and Ahearn.

K. F. Bleecker writes from Boulder, Colo., that he is making oil well bombs and that business is good. My own unhappy contact with an industry that supplies America with motor power, lubrication, and scandals would make me feel that there is probably nothing quite so important in the entire industry as the oil well bomb — unless perhaps it be a little oil. Those wells which have sought my financial support have either presented a post-Volsteadian aridity or else have belched forth salt water. The bomb offers, so I understand, the one possibility of salvage. I am glad that business is good even though I have involuntarily contributed to it with a generosity unwarranted by my income.

Howard Wood is, or has been, in Rio de Janeiro. Howard is with the General Electric Company at the Nela Park plant in Cleveland, making electric lights. His trip to our sister republic is to look over a factory for the manufacture of these useful articles which his company has established there. Friends of mine who were formerly students at the University of Virginia have described to me in glowing terms the local demand created for this commodity by the practice of the gentle Virginia student shooting out the lamps of the institution as he homeward plodded his weary way after a day's farming in the corn. I understand, however, that Al Higgins has changed all of this and that now the denizens of that garden spot in our sister Commonwealth prefer to "shoot the moon." — ALLAN WINTER ROWE, *Secretary*, 4 Newbury Street, Boston, Mass. V. F. HOLMES, *Assistant Secretary*, 131 State Street, Boston, Mass.

'02 A class dinner was held at the University Club, Boston, on the evening of Friday, February 10. The following classmates with their respective wives were on hand: Bassett, Geromanos, Hunter, Moore, Patch, Pendergast, Philbrick, and Taylor. The unchaperoned men were Richie, Walker, Nickerson, Fowler, Reynolds, and Arthur Sawyer. Miss Bates was the only lady member of the Class present. After the dinner, the reunion movie, which had been made up by President Place, using the films he took last June, together with some contributed by Charlie Mixer, were shown to the interest and amusement of all. Following this, were two reels demonstrating the Einstein Theory, then a comic strip, and lastly, a film taken by Richie last summer while on a yachting trip to Newfoundland. The party broke up about ten o'clock after instructing the Secretary to express appreciation to Place for the very interesting movie which he had made.

Bourneuf is with the Ornamental Iron-

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work Department of the James A. Glass Company, 214 High Street, Boston. It is some time since many of the classmates have seen Bourneuf. It seems that he has been for two years past with the E. P. Lyons Iron Works of Manchester, N. H., but recently changed to the above connection in order to be nearer his home in Melrose. — Bob Edwards has moved from Brookline to 202 Reedsdale Road, Milton.

MacNaughton was recently elected Vice-President and Director of the First National Bank of Portland, Ore. As far as we know, this is the first Course IV man from our Class to go into banking. The architects have, however, blossomed out in other departments, as Phil Whitney, professor in the architectural department at the University of Pennsylvania, won a \$500 prize offered by the Philadelphia *Ledger* for the best showing on a series of cross-word puzzles.

Nickerson is now with Jackson and Moreland, the well-known electrical engineers with offices in the Park Square Building, Boston. He is engaged in general engineering work and appraisals. — FREDERICK H. HUNTER, Secretary, Box 11, West Roxbury, Mass. BURTON G. PHILBRICK, Assistant Secretary, 246 Stuart Street, Boston, Mass.

'03 We regret to note the passing of an esteemed classmate and a highly respected citizen, Henry Thornton Winchester,

a nationally known electrical engineer of Ann Arbor, Mich. He and Professor Herbert S. Mallory of the University of Michigan were fatally injured on December 31, when an automobile, driven by Professor Mallory, crashed into a Pere Marquette freight train at a crossing twelve miles east of Ypsilanti during a blinding snow storm which prevented the driver from seeing the train. Both men died after being removed to hospitals. The party was returning to Ann Arbor from Detroit.

Mr. Winchester was born in Boston, on October 18, 1879. His father was an inventor of note, giving to the world the Yale Lock and rock drills. After graduation at Technology, he went to Dallas, Texas, under Stone and Webster as superintendent of electric light and power. Leaving for Detroit in 1907 as the President of the Frost Winchester Company of both Canada and Detroit, for eleven years he was one of Detroit's construction engineers. At this time he designed the south stand at Ferry Field for the University of Michigan. In 1917 he went to Camp Custer, Battle Creek, superintending the installing of the water system for the camp. In December of that year he went to Hog Island Navy Yard, Philadelphia, and was one of the first engineers and division superintendents for Stone and Webster. He supervised the launching of the *Quisconk*, the first ship to be christened by Mrs. Woodrow Wilson.

In 1919 he returned to Detroit as consulting engineer and quantity estimator. At the end of three years he came to Ann Arbor and supervised the construction of the Lawyers Club for Starrett Brothers of New York. After which he laid a water main for the City of St. Louis, which ran for seventeen miles to the Missouri River. In March 1927 he was elected Vice-President of the Apex Coal Company of Chicago.

Mr. Winchester was a member of the Phi Beta Epsilon fraternity, Electrical Engineering Society, and the American and Michigan Engineering Societies. While in college Mr. Winchester set several athletic records. In 1906 he married Miss Helen Weeks of Allegan, Mich., daughter of the late Captain H. S. Weeks of the U. S. Army. He leaves his widow and five children, Richard, Nancy Elizabeth, Henry Thornton, Jr., Mary Helen, and Alan Weeks. He also leaves a brother, Edward Rivers Winchester of Detroit. Memorial services were held Monday morning, January 2, at St. Andrews Church, Ann Arbor. The remains were taken to Allegan, Mich., for burial.

At a class dinner held January 27 at the University Club, which was attended by Aldrich, Gleason, Jewett, George Greene, Wing, Haddock, and Stiles, it was voted to hold the Twenty-Five Year Reunion at Marion, Mass., June 1 to 3, at the Kittansett Club as selected by the committee, provided we are able to get the use of the club as promised. Also it was voted to assess all members of the Class \$2.00 dues for immediate payment, this being the first call for dues for several years. A complete prospectus of the Reunion will probably be mailed before this notice is printed. — CHESTER S. ALDRICH, Secretary, 10 Beaufort Road, Jamaica Plain, Mass. GILBERT H. GLEASON, Assistant Secretary, 25 Huntington Avenue, Boston, Mass.

'05 All readers of The Technology Review know of the Dormitory Fund Campaign of which Dean Burton was for a year

the director. Progress has been made, various classes giving from a single entry floor to a complete dormitory. '05 has been sitting back, watching. We have recently been asked to contribute \$20,000 for one entry floor. A committee consisting of Strickland, Marcy, Boggs, and Wentworth, chairman, has taken the matter in hand in an endeavor to make our standing among the classes more respectable. During the last two weeks (this was written February 16) they have been busy on the matter, getting in touch with a few classmates in order to obtain some idea of what may be expected in the broad class appeal. To date thirteen men have subscribed \$5,350, in amounts ranging from \$200 to \$1,000, and have promised from "cash" to "payments over five years." Those heard from are Boggs, Dissel, Farrington, Harrington, Helpen, E. B. Hill, Marcy, Prichard, Rhodes, Richards, Strickland, Wentworth, and Wiggins.

A general appeal will be sent out shortly (probably before this is read) asking for subscriptions to as many units of \$25 as the recipient feels that he can take, and even if one feels that he should take not more than one unit, it is hoped that as many of the Class as possible will participate in order that the total number of subscribers be as large a fraction of the Class as possible. We hope that there will be found a number more who can feel able to give substantial amounts, and it is possible that there may develop somewhere among the 460 men one or more in a position and in the mood to make a handsome donation to the cause.

A joint meeting of the American Institute of Electrical Engineers and the British Institu-

tion of Electrical Engineers by means of the trans-Atlantic telephone was held on February 16 in New York and London. It was the first time that such a meeting had ever been held. Among the speakers were Sir Oliver Lodge and Harry Charlesworth, chairman of the American session. The New York papers carried a photograph of the speakers, Harry in the foreground looking somewhat older than his picture in the Senior Portfolio, which is perhaps natural, although we haven't seen him since then.

A day or two later, the New York *Herald Tribune* showed a photograph of Jim Barnes in a typical Lindbergh pose receiving the gold medal of the American Museum of Safety, awarded to the Louisville Railway Company "for reducing collisions and for its record of only one passenger killed during 1927." It is apparent that Jim, personally, has done no reducing. Like every other American street railway executive, Jim has been the recipient of some criticism in his home town papers. Indeed a cartoonist once drew a lovely pun on "Car Barnes," but the knowledge of this award should increase the number of his supporters.

Fred Abbott, whose change was noted in the March notes, explains the move: "There really is very little that I can say about our new concern except that both Mr. Macfarlane and myself were with the Lord Electric Company for a great many years — Mr. Macfarlane as general superintendent and the writer as engineer. This last fall, we decided to start out for ourselves and are in a position, I believe, to handle any kind of electric construction work — anything from handling a bell to building a power station."

Mrs. Eliza Newkirk Rogers writes as follows: "Since my marriage to Mr. Rogers in 1924, my home has been at the Phillips Exeter Academy (our apartment is in Webster Hall), and I have continued my work in teaching at Wellesley College (giving courses in the history of architecture), and my practical architectural work. I take only as many jobs as I can attend to myself. This year I am giving a course in history of architecture at Connecticut College, New London, Conn. In addition to the articles in the *House Beautiful* I have published one in the *Journal of the A. I. A.* for January, 1927, on 'Richelieu, an Example of 17th Century Town Planning' in France."

The following from Jack Flynn was received late in January: "I have joined the export subsidiary company of the Blaw-Knox Company (Milliken Brothers — Blaw-Knox Corporation, 342 Madison Avenue, New York) with the high-hat title of director. My job for the next two or three years will be to travel through South American countries and be the Lindbergh of the Blaw-Knox Company, spreading good will and the glad tidings of Blaw-Knox buckets, inundators, structural steel, transmission towers, and so on. My first port of call will be Buenos Aires, where I will be located until some time in April, care of General Electric Company of South America, who act as our agents in that part of the world. After that I go to various cities in Brazil, Venezuela, Colombia, and, little by little, work around down the west coast to Chile and across again through the Argentine. My kid sister is traveling with me to Buenos Aires, and may go across the mountains to Antofagasta, Chile, where we have a

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married sister and family residing." Can any one explain what good an inundator will do the South Americans?

Charlie Saville, who recently decided to come back to '05, says it very neatly as follows: "Director, Public Health, City of Dallas (Texas) 1916-18; manager, Chamber of Commerce, 1918-26; life insurance, 1926-28; five girls, one boy, no twins. Sorry I am not a good 'Historian.'" His address is 1126 Athletic Club Building, Dallas, Texas.

As far back as the Ten-Year Book, Isadore Niditch has been missing. Sid Strickland somehow got word of him in Cedarhurst, Long Island, N. Y., whence he reports as follows: "I lived in Boston until 1918, although I commuted between Boston and New York for two years, as I owned and operated a chemical plant on Long Island manufacturing pyrotechnic chemicals for the Government during those hectic days. Following the Armistice I entered the export and import field, specializing in food and chemicals. The collapse found yours truly at the end of a beautiful rainbow. What a time was had by all! I had been living on Long Island, and saw the possible future development of the community I lived in as well as the entire Island, and so I gradually drifted into the real estate field. It has its ups and downs, especially if you play with Long Island. As you no doubt know, I am married and have what I consider a perfect family. There are three children; my oldest is a boy seventeen years old who is now a sophomore at Dartmouth — not bad, hey? — and some boy, if I do say so! Next is a young lady sixteen years old who graduates from high school this year and is bound for one of the institutions of higher learning. And last but not least, I have a boy ten years old."

Hallet Robbins is on another world tour for the American Cyanamid Company. He was last reported from Hokuchin, Chosen (Korea). — Roy Allen is now with Spalding Construction Company, 125 East 46th Street, New York. He is living in Amityville, Long Island. — I had lunch with Bert Files one day in New York. Bert, as you will recall, is running the Cross and Brown Company, managers of 200 odd New York buildings, at least he has charge of the operation and upkeep. He led us through several gorgeous rotundas while the blue and grey uniformed elevator men and their captains snapped smartly to attention. It was all very impressive. — Carlton Manter seems to have moved from Taunton to Springfield, Mass., but we have no details.

News of the severity of President Charlie Clapp of the University of Montana has spread all over the country. A married couple, both students at his institution, were "indefinitely suspended" more than a year ago — for what cause we know not — and since then have petitioned the faculty and carried Charlie's ouster proceeding to every possible authority and twice to the State Supreme Court without avail. Which shows that he handles his job with technological efficiency.

In the February number, the Editors undertook to reply to a mild complaint of ours by crowing over the discovery of a cartoon which once appeared in the Boston *Globe*, "depicting," as they say, "our own (hic) [sic] Ros Davis in the guise of Teddy Roosevelt imperiously standing over a slaughtered lion."

That the editors should have been able to penetrate the T. R. mask, to say nothing of the Joe Webber stomach, is indeed commendable, but what has that to do with Doc Lewis? Grove Marcy impersonated the lion. There was another lion well played by Bill Spalding. And there was a nutty naturalist, Zeke Coffin. But the chief hunter, yes, even The Review Editors, cannot identify the elephant, the mule, and the tribe of black men.* But why go way back to Nantasket? Does the scrawny lion personify the plump Editor-in-Chief? ** Perhaps in 1909. Certainly not now. — Roswell Davis, '05, Secretary, Wes Station, Middletown, Conn. S. T. Strickland, Assistant Secretary, 20 Newbury Street, Boston, Mass.

'07

A distinct honor has come to our classmate, Alexander Macomber, in his election to the presidency of the M. I. T.

Alumni Association. Never before has so young a man been chosen for this office. Mac will fill the office in great shape, as his interest in Technology is unquestioned; his ability to analyze situations and discover solutions for difficult problems has been proved; his leadership and executive ability have been established; and, as a speaker he is convincing, forceful, and a good deal of an orator. Mac is an increasingly successful consulting engineer, being a member of the firm of Macomber and West, 35 Congress Street, Boston. He is Treasurer and Agent of the Charlestown Gas and Electric Company, Vice-President of Manchester Electric Company, and is a director of these companies and also of the Portland Gas Light Company, Westbrook Gas Company, Maine Gas Companies, Municipal Light and Power Company.

A brief letter from Ernest S. Altgelt, I, gives his address as Laguna, Texas. He states that for the past four years he has been in the cattle business but got deflated in the process. He also has done some irrigation work as a side issue, and has made wading measurements and flood measurements for the United States Geological Survey.

Ralph Crosby qualifies completely for the "Five or More Club," having seven children: six girls and one boy. His business address is 1424 Edison Building, Chicago, and his home is at 421 West Ash Street, Lombard, Ill. Ralph has had a good deal of sickness in his family and things have not gone any too well for him. Your Secretary suggests that you

* Mr. Davis underestimates the penetrative powers of The Review Editors. The complete lineup for the 1905 stunt was as follows: T. R., Ros Davis; Kermit, Stebbins; Cocktail Charlie, Loughlin; Nature Faker Long, Coffin; Reporters for *The Tech* and *Outlook*, Daniels and Bennett; Natives, Allen, Eichler, Bartlett, Clarke and Burns; Bear, Broad; Elephant, Whitney and Barnes; Lions, Spalding and Marcy.

** Certainly not a scrawny lion: the Secretary strains at a gnat and swallows a camel, proving that he was mis-cast in 1909. Only in his rhetorical beating of the air with a secretarial big stick has he ever suggested the twenty-sixth President of the U. S. — The Editors.

men who are reading this who know Ralph personally take a little time and write him a cheery letter.

One member of our Class who is somewhat older than most of us, having graduated from Harvard in 1900, and who has made a name for himself in the field of road building, is Edwin W. James. James is chief in the Division of Design, Bureau of Public Roads, U.S. Department of Agriculture, Washington, D. C., having worked up to this position through many grades in the department. He has delivered many addresses before associations, college and university groups, civic organizations, and so on, and has written about 110 articles, the last one a series of eight in Spanish on building a national highway system. He is largely responsible for the layout of the Federal Aid Highway System of the United States (200,350 miles), and in selecting United States highways and in providing for uniform working. In 1927, he represented the United States as technical adviser at the Paris, France, international conference on "Circulation Routière." James is married and has one daughter, twenty years old.

Carl Trauerman writes that Jack Kinnear of our Class, who is acting-manager of the Nevada Consolidated Copper Company, McGill, Nevada, has been elected President of the Nevada Mine Operator's Association, which is quite an honor and a tribute to his ability and popularity. Carl also sends an attractive program and menu card for a dinner of the Montana "Al Smith for President" Club, held on January 16, 1928, which Carl says was the largest affair of its kind ever held in the Northwest, 764 being present. Carl is publicity director for this club. He has recently been elected President of the Butte (Montana) Radio Club, one of the largest "listeners in" clubs in the world, with a membership of about 450.

On March 1, 1928, Frank MacGregor became general manager of the acetate rayon department of the du Pont Rayon Company, located in the Park Avenue Building, New York. He sailed for Europe early in March for a two-months trip. Frank writes that in January he had a fine trip for a week's duck and quail shooting in South Carolina. Frank is also assistant director of the development department of the E. I. du Pont de Nemours and Company, President of the Chemical Securities Company, President of The Ammonia Corporation, President of the Niagara Ammonia Company, Inc., Vice-President of the Hotel du Pont Company, Vice-President of the du Pont Building Corporation, Vice-President of the Playhouse Company, Director of the Arnold Fish and Game Preserve, President of the Hydro-Electric Chemical Company, President of the Phosphorus Hydrogen Company, President of the Universal Chemical Company, President of the Priest Rapids Fertilizer Company, — all these of Wilmington, Del. Frank is not married. He is a member of the American Institute of Mining Engineers, the American Electrochemical Society, and the Franklin Institute of Philadelphia. Just a "fairly" busy man, but a mighty loyal Technology and '07 man, always present at class reunions, and one of the best correspondents in our Class.

Remember our English classmate and

1907 Continued

friend, John E. Tresnon? Tres has had several different connections since 1907, among them, according to himself, "For Lloyd George and King George against William Hohenzollern, at Lancaster, England, 1914-18," but since 1918 he has been system operator and load dispatcher in the power division of the Salt River Valley Water Users Association, Phoenix, Ariz. He is the father of a twin son and daughter, born in 1915. So far as we know, he is the only '07 man holding this distinction. — BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass. HAROLD S. WILSON, *Assistant Secretary*, W. H. McElwain Company, Manchester, N. H.

'09 On January 1, 1928, P. H. Chase was made engineer in charge of transmission and distribution of the Philadelphia Electric Company. Chase has been associated with the Philadelphia Electric Company since 1921. Prior to this he was for four years chief electrical engineer for the American Railways Company of Philadelphia, now the American Electric Power Corporation. His earlier connection with the electrical industry was with the Public Service Electric Company of Newark, N. J. He has served as chairman of the Philadelphia Section of the American Institute of Electrical Engineers of which he is a member.

Lynn Loomis has moved to Rochester, N. Y., where he is now associated with the Eastman Kodak Company. — Maurice R. Scharff, formerly chief engineer of the Philadelphia Company and affiliated corporations, announces that on March 1 he opened his office as a consulting engineer in association with Main and Company, Certified Public Accountants, giving special attention to consultation and reports relative to public utility engineering and construction, public utility valuation and rates, and other engineering-accounting and engineering-legal problems. His new address is given below. — The New York crowd held a class luncheon on February 18, with eight men present. They are planning for another luncheon in the spring. — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. PAUL M. WISWALL, *Assistant Secretary*, Franklin Baker Building, Hoboken, N. J. MAURICE R. SCHARFF, *Assistant Secretary*, Farmers Bank Building, Pittsburgh, Penna.

'10 No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the April issue.

The Secretaries received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to DUDLEY CLAPP, *Secretary*, 16 Martin Street, Cambridge, Mass., or to R. O. FERNANDEZ, *Assistant Secretary*, 264 West Emerson Street, Melrose, Mass.

'11 Washington's Birthday finds me in Cleveland, penning these Class Notes during the start of a snowstorm. I am in the last week of a five-weeks trip to the clubs in the South, and am returning across Ohio.

As always, one of the particular delights I have had is the meeting of 1911 men "in the sticks."

I started off in a blaze of glory when I was the house-guest of Don and Jess Frazier at Richmond, Va. Don and his wife are certainly host and hostess de luxe. He is progressing rapidly with the American Mutual Liability Insurance Company. W. C. Davis, Jr., I had hoped would come in to the Richmond meeting from West Point, Va., but he was unable to do so. He is still on road construction work.

There seem to be no classmates of ours in the northern part of Florida, where I stopped at Jacksonville and also had a joint meeting of Alumni in St. Petersburg and Tampa in the former city. In Atlanta and Birmingham there seemed to be no '11 men, but in New Orleans I had a delightful renewal of acquaintance with Lee McMillan, IV, who continues to be a prosperous realtor.

It surely seemed like old times when I received my usual warm welcome in Houston, Texas, from George Forristall, II, and his wife and youngsters. On a Sunday afternoon George and Mrs. Forristall had a tea for the Technology men and their wives to meet me, and at this I met Dr. Donald C. Barton, XII, who took some special work in geology at Technology as a member of our Class. Bill Humphreville, VI, happened to be out of town. Forristall is sales and advertising manager for Foley Brothers Dry Goods Company; Barton is chief geologist for Humble Oil and Refining Company; and Humphreville is President of W. E. Humphreville Company.

Continuing up to Dallas, Texas, I was royally welcomed by Frank Bell, '10, and his wife, and saw our good friend George Watson, IV, President of his own Watson Company. Over in Fort Worth, thirty miles away, we had a Technology lunch, and good old Francis A. (Doc) Moore, II, whom I had missed on my previous trip was there. He is doing finely with Waples Platter Grocery Company.

"No soap" was what I found in St. Louis for '11 men. I used to see Henry Hall, IV, there, but he has left there now and we have lost track of him. Similarly, no classmates in Louisville, but I sure got a glad hand reception from Curt Webb and his wife. Webb will be remembered as general manager of one of the Tech Shows of our day.

In Nashville, Don Southgate, IV, is President of the local club and devoted his whole time to me while I was in that city. Don has worked up a peach of an architectural practice and things are breaking nicely for him.

No 1911 men in Indianapolis, but I again ran into architectural strength in Cincinnati with Ed Kruckemeyer, IV, and his partner Charlie Strong, IV. At the meeting I addressed there Ed was elected President of the local group. He and Charlie are going like a house afire.

In Dayton I learned that Lishe Fales, II, who is in civilian service at the government's big new Wright Field, was taken ill recently and is at Johns Hopkins Hospital in Baltimore. Heinie Kenney, II, whom I always enjoyed seeing in Dayton has been transferred to Langley Field. No 1911 men in Columbus.

During the last three days of my trip I

made short stops at Cleveland, Buffalo and Rochester, with a dinner meeting in each city. The Cleveland meeting was at a country club half way between that city and Akron, with Alumni from both places present. I saw Art Coleman, VI, from Cleveland, and B. Darrow, VI, and Bill Shepherd, VI, from Akron. I was terribly shocked to learn from them that Harry Alexander, II, chief engineer of the Seiberling Rubber Company, is seriously ill at his home in Akron.

In Buffalo the dinner took the form of a joint meeting with Niagara Falls, and I saw Joe Dunlap, II, of the Dunlop Tire and Rubber Company, Buffalo, and Norman Duffett, X, of the Union Carbide Company, Niagara Falls. Ote Hutchins, XIV, who is with the Carborundum Company at the Falls, happened to be away. None of our classmates in Rochester were able to attend the dinner meeting held there as the concluding affair.

While on this trip I learned to my delight that Don Stevens, II, is now Vice-President and Works Manager of the newly formed Okonite-Callender Cable Company at Passaic, N. J. This is a well deserved honor and we all congratulate you, Don. I also have had a cordial letter from K. W. Dennett, II, who has been with the Hawaiian Pineapple Company, Ltd., Wahiawa, Oahu, T. H., since 1911, in which he says: "If any of the 1910-1911 men happen to be traveling through this part of the world and have the time, the inclination, or the desire to see a little of the Island of Oahu on which Honolulu is located — parts that are not seen by tourists in general, and we can make our dates check — I would like to have them ride with me through some of the 18,000 odd acres controlled by the Hawaiian Pineapple Company on this island. I am located at Wahiawa, about twenty-five miles from Honolulu, and can be located through the main office of the company in Honolulu."

It is difficult for me to express the enjoyment I have received from the numerous letters which classmates in particular have sent me expressing regret at my having decided to resign as full-time Alumni Secretary and best wishes for the future. Friendships are among life's dearest treasures. — ORVILLE B. DENISON, *Secretary*, Room 3-207, M. I. T., Cambridge, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

'12 With a little push here and a little pressure there throughout the body politic of this, our Class of 1912, it begins to develop some hopeful signs of life. Our pessimistic friends had dubbed us a lifeless mass. Heretofore comparable only to that inert gas, nitrogen, we are beginning to get a little sniff or two of ozone in our system.

With all becoming modesty, the secretarial department of the Class accepts the encomiums offered in the following remarks quoted from the letter of L. T. Cummings, VI: "I certainly think you and whoever is back of this movement to get some pep into the Class should receive a medal. I am for you 100% and if there is anything I can do, be sure and shout. I have already received letters from Earl Ferry and R. J. Wiseman, and if the rest of the Class keeps up the good work I'll probably hear from others before

1912 Continued

long. Good luck to you in accomplishing the results you want in getting the Class together." That's the spirit which will get us somewhere. We want more inter-correspondence between classmates, as we know that some of it will gradually filter into the Secretary's palatial offices.

Cumming's letter goes on and tells us something of himself, though none too much. He is with the McQuay-Norris Manufacturing Company, makers of pistons, piston rings, pins, and bushings. Cummings has charge of the two plants of this company at Connersville, Ind., and craftily attempts to sully the editorial purity of these columns by sneaking over a little piston ring propaganda as follows: "If any of you fellows need any pistons, bearings or rings for that old car you drive, you can get 100% service, quality and price from the McQuay-Norris service station located in your town." (Editorial Note to Advertising Department: Send this bird a rate card and see if you can't shake him down for a page in the next issue.)

Next on today's program is Walter Ruby, II. In spite of his own apparent doubt, we are dead sure his letter will be of interest to everybody in the Class. Here's his story in his own words: "I will be glad to give you a few lights on what I have been doing since I left college if it is of interest to anybody. Possibly this is inspired through attendance at a meeting in Syracuse, of the Central New York Alumni Association, which Denison attended with a couple of reels of his movies from Technology. The pictures brought back a few memories but made us realize more than ever that she's not what she used to be. As far as my own life is concerned, I went to work for the Oneida Community, Ltd., in their hardware business after leaving school, leaving them when they sold out to the American Chain Company. I then got in a few years in wholesale building material with the idea of some training toward taking over this business. However, I got tired of it and went back into the engineering game with the Franklin Automobile Company at Syracuse. Well, then the war broke out and I got mixed up in the Ordnance Department of the army. I had one brother in the army and another in the navy, and, as we finished our efforts there, it seemed a good time to get together with my father in this old-established business where I have been ever since. I married an Emerson College girl shortly after leaving Technology, and the boss is a two-and-one-half-year-old girl. The house is a new one, just completed, which brings us up to date. I would be considerably interested in a Class Reunion in 1932, and if it is at all possible I surely will be there." — Thanks, Walter, that's a good letter. Keep up the good start by writing to some other classmates and urge them to send in a story, too. Address Walter M. Ruby, care of R. B. Ruby Lumber Company, Oneida, N. Y.

Marcel Desloge, IV, whose proposed trip abroad received passing mention in last month's column, gives us a little more dope in another letter. He is going purely for pleasure, he says, and is to visit Paris (for pleasure we presume); also London, Rome, Athens, Constantinople, Jerusalem, and Cairo. He refuses to make any specific promises about writing long letters, but agrees to keep us posted on his arrivals. Incidentally, we are

celebrating the arrival of a cash contribution from Desloge to the Secretary's funds. These contributions from classmates are so few and far between that we get all excited when one does drift in. In the July issue we're going to publish a list of the benefactors of the Secretarial Sinking Fund (if it isn't completely sunk by that time).

A. C. Albee, I, writes from Passaic, N. J., that he is taking a little vacation between jobs. Like most civil engineers, he didn't know where his next hatrack would be, but he had prospects in Atlantic City, N. J.; Toledo and Canton, Ohio; and St. Louis, Mo. We haven't heard which one finally claimed him. Albee's experience record since leaving school seems to have included all the construction jobs in North America. To mention just a few — he has been on the New York Barge Canal, Jamaica Bay Ship Canal, double-tracking the Erie Railroad, the Welland Ship Canal, building a milk condensary plant, and, oh a lot of jobs for the Eberhardt Construction Company in Kansas, Missouri, Oklahoma, Texas, and North Dakota. Albee is married, claims he reads the Class News (if any) in *The Review*, and is looking forward to this much talked of Reunion in 1932. Letters addressed to A. C. Albee, 222 Howard Street, Passaic, N. J., will be forwarded.

A. R. Hammond, III, drifted into the Technology Club of New York the night that the latest plan for a new clubhouse was being fought out there. He intended to sail a few days later for South America, where a job with the American Smelting and Refining Company awaited him at Trujillo, Peru. This is not Hammond's first experience in South America. He has been pretty much all over the Continent, and hints darkly at hair-raising contacts with revolutions, weeks spent in fearful jails, and other Richard Harding Davis stuff, but refuses to give us the details. Some day we may worm them out of him.

Tod Greenleaf has at last been heard from, and the following is a brief account of his activities to date: After graduating he was with the Chicago and Eastern Illinois Railroad, located at Johnson City and Herrin on relocation work. Leaving here he went with the Chicago, Milwaukee, and St. Paul Railroad at Chicago in the designing engineers office. Following this, Tod got back to his home town at Savannah, Ill., where the railroad yards were undergoing considerable enlargement and alterations. Following this, a term as county superintendent on highways for Carol County, Ill.; then with the Northwestern Railway, after which he did field work for the Portland Cement Association. Between these moves Tod married Miss Ruth Helen Gray, Charleston, Ill., in 1915, and now boasts Betty Jane, eight years old, and Robert (Tod), fourteen months old. In 1917, Tod left the railroads for contracting work and, after making money for the Henry W. Horst Company for several years, started in for himself under the name of The Greenleaf Construction Company, Rock Island, Ill. Business at the present is quite brisk, and the outlook is for more yet. Anybody passing near Rock Island is invited to drop in on the Greenleaf family.

Letters sent to the last known addresses of Russel T. Bailey and C. L. Tuller have been

returned by the post office. If anybody knows where these fellows are, please send us the right dope.

Mark down May 25 and 26 as the dates of the All-Technology Convention at Atlantic City, N. J., this year. Shall we see you there? — FREDERICK J. SHEPARD, JR., *Secretary*, 125 Walnut Street, Watertown, Mass. D. J. McGRATH, *Assistant Secretary*, McGraw-Hill Company, 10th Avenue and 36th Street, New York, N. Y.

'13

We're off to the biggest and best Fifteenth Reunion any class of Technology ever held.

More than half of your old classmates will be there or will endeavor to join us. There are 450 known members of our Class. Figure out for yourself how many will be present. A most valuable prize will be presented to the sage or prophet who can guess the number who will attend. You will have three guesses; send in your prophecy now.

On February 15 the following members of our illustrious Class met and dined: Newt Eichorn, Stan Parker, Bob Portal, Ray White, Jerry Fallon, Jumbo Mahoney, Buttz Bryant, Al Townsend, Joe McKinnon, Tommy Thompson, and Phil Capen. The various committees reported progress. Bob Portal was appointed a committee of one on transportation. You know what these advertising men can do when they tackle a job. You'd better sign up now or Bob will get you in the end.

Fred Murdock wrote on his return post card, "Hey, Phil! How about some Class Notes?" "Hey, Fred! How about some news?" We did obtain the following class news at our monthly dinner: Stanley W. Parker married Louise Baker of Roslindale, Mass., in 1916, and now lives at 40 Orchard Avenue, West Newton, Mass. Stan works with Wheelock, Lovejoy and Company, Inc., of Cambridge, Mass. He has no children, and spends his spare time at golf at the Albermanle Golf Club or fishing.

Robert T. Portal admits he is married and still likes it. His home is at 47 Burroughs Street, Jamaica Plain, Mass., and he lists his favorite hobbies as work, gym, golf and his automobile. He is sales manager of the Auto List Publishing Company. — Benjamin White lives at 148 Ruthven Street, Roxbury, Mass. After several years with Stone and Webster, Lockwood Green and Company, and Aberthaw Company, he is now President and Treasurer of the White Construction Company, Inc., of 11 Beacon Street, Boston.

William N. Eichorn, of 9 Kings Beach Road, Lynn, Mass., is industrial engineer for C. L. Stevens Company at 1 Federal Street, Boston. On July 1, 1927, he was married to Dorothy Hannan of Lynn. — William A. Bryant has his home at 61 Clark Road, Brookline, and his office nearby at 334 Washington Street. He married Etta M. Fowler in December, 1918, and now has three children, two girls and a boy. His firm, H. F. Bryant and Son, has designed Alden Park Manor structurally, as well as the Noyes Buick Building, Boston, and many others.

Charles G. Fallon, of 31 Burroughs Street, Jamaica Plain, Mass., is still unmarried. He is with the Fallon Supply Company at 3 Harris Avenue, Jamaica Plain. — R. Charles Thompson and his wife and daughter live at

1913 Continued

135 Norwood Avenue, Newtonville, Mass. He is Assistant Treasurer to Thompson-Durkee Company, a firm dealing in plumbing supplies.

The following letter was received from our old friend Harry Wright: "The collection of letters and pledge cards which came to my desk this morning made me decidedly homesick. I can think of nothing that I would enjoy more than a reunion with the gang that attended chapel in the Brunswick bar, and used Boylston Street as a campus back in the days when we were trying to find out if there was any reason why Charlie Cross and his physics course should not be deleted from the curriculum. I am sitting at a desk here in Chicago pretty much of my time just now and going through the gestures which are necessary to make the casual inquiring public believe that I know something about Portland Cement. I find it necessary to take an occasional trip over to New York or Philadelphia, but Boston and its crowning memories is ordinarily beyond the radius of my journeying.

"I cannot make any definite commitment as to being among those present at the Reunion this year, but I will keep this matter in mind. Should some fortuitous circumstance grant me this pleasure, I will advise you accordingly. Convey my salutations to any of the boys that you meet, and tell them that if they are ever in Chicago that I would like to have the honor of introducing them to some of our better known professional gunmen and liquor kings. A suit of armor is not essential though possibly advisable, should any of them plan to stop off in our delightful winter resort on Lake Michigan. Do not fail to advise them to bring plenty of clean collars and shirts. They will need them. I almost forgot to give you my present address. My home is at 2738 Woodbine Avenue, Evanston, and my office is the Portland Cement Association, 33 West Grand Avenue, Chicago."

As the Chinaman says, "No tickee, no shirtie." "No news, no notes." — HARRY D. PECK, *Secretary*, 1123 Hospital Trust Building, Providence, R. I. G. P. CAPEN, *Assistant Secretary*, 25 Beaumont Street, Canton, Mass.

'14 When Saturday, February 18, dawned a raging blizzard, we all knew that our annual dinner was to be a grand success. Blizzards for dinners and rain for luncheons have long since become recognized as harbingers of unusually successful events. They seem to act as catalyzers on our spirits.

Twenty of us, including a few from the Institute instructing staff who became Fourteeners for the evening, dined together, reminisced, and enjoyed the entertainment. We had for our guest of the evening, William Jackson of the Institute's Information Office. The dinner celebrated twenty-five years of service of Mr. Jackson at Technology. Many fitting telegrams were received by Mr. Jackson during the course of the evening. In spite of the success of the dinner there were no casualties. A fine record!

The Dormitory Fund campaign still waxes strong, but we have nothing to boast about regarding our own accomplishments. If you have not sent in your own pledge even at this

late date, will you not please give this important problem your immediate attention? If you have lost your pledge card, just drop a line to the Secretary, telling him how much you desire to pledge and how long you require to make the payments.

Gallen's many friends were shocked to learn of the death of his wife in February. To Vic and his three-year-old daughter, Eletta, the sincerest sympathy of the Class is extended.

Frank Dunn was unable to attend our annual dinner this year. Reason? At home admiring Nancy Whittier Dunn, born January 10. Congratulations, Frank, but by the time you get in Sterling Harper's class we shall not expect such an event to continue to keep you away. — H. B. RICHMOND, *Secretary*, 100 Gray Street, Arlington, Mass. G. K. PERLEY, *Assistant Secretary*, 21 Vista Way, Port Washington, Long Island, N. Y.

'15 The first class dinner outside of Boston was held February 21 at the City Club in New York. Jim Tobey deserves credit for getting the boys together and running the show. Jim is a member of the City Club and arranged for a delicious dinner in a big private dining room. The following are the statistics on those present: James A. Tobey, IX, health officer, Borden Company, New York. Married. One boy and one girl. — Louis Zepfler, V, Standard Oil Company, Jersey City. Married. One boy and one girl. — W. A. Swain, VI, salesman, Jenkins Brothers, Bridgeport, Conn. Married. One boy and one girl. — H. F. Daley, II, engineer, B. F. Sturtevant Company, Philadelphia. Married. Two boys. — E. R. Stearns, I, constructive engineer, Carlson Company, New York. Married. No children. — P. De Vecchi, VI, consulting engineer. Single. — A. D. Beidelman, XIII, test department, Pennsylvania Railroad, Altoona, Penna. Married. Two girls. — Kebe Toabe, VI, President, Elizabeth Plate Glass Company, Elizabeth, N. J. Married. Two boys. — Viking Enebuske, I, engineer, Guggenheim Company, New York. Single. — St. Elmo Tower Piza, IV, architect, Warren and Whetmore, New York. Single. — H. L. King, I, engineer, Holland Tunnel. Married. One girl. — A. W. Mack, X, salesman, Saranac Pulp and Paper Company, New York. Single.

These twelve men could very well be called tried and true. They represent seven of the then fourteen courses. The long distance prize goes to Beidelman, who lives in Altoona and came from Akron for the dinner. Daley comes second for long distance from Philadelphia. St. Elmo was probably the best dressed and most charming in manners. Seriously, though, this was a good representation. We sent out forty-nine cards in metropolitan New York and twenty-two in Philadelphia. About thirty fellows answered. There was nothing formal about the meeting. We sat around after dinner and talked over many pleasant and interesting memories. Several of the fellows called up their friends who unfortunately could not be present; otherwise we feel sure we would have had about twenty-five men. I was tremendously impressed with the spirit and feeling of the fellows, most of whom had not seen one an-

other for ten or twelve years. I wish I could give you all the details of the meeting. I have a list of about twenty men about whom we talked and to whom I plan to write. You may be interested to know that Rube Bassett has gone far afield from engineering by being in the shellfish business in Philadelphia. Ralph E. Hart is a successful chemical manufacturer in New York. Bill Spencer and Charlie Hall are around New York but were away at the time of the meeting. Francis Wall, of track team fame, is in Philadelphia. Jimmie Franks is in Philadelphia with the White Motor Company and is reputed to be just as good looking and well dressed as ever. Andy Anderson, now with the Jersey State Highway Commission in Newark, is reputed to have been the best worker under compressed air on the Holland Tunnel. Jimmie James was a flyer in the army. John Duff is an eminent and successful doctor in New York and has charge of welfare work in the Metropolitan Life Insurance Company there. There are many others I'll have to tell you about later.

Jerry Coldwell is helping the railroads over a tough year, and writes me as follows from Amarillo, Texas, January 15, 1928: "On the way down here I had a thought that may or may not be of value. There probably are many other members of our Class that travel around the country the way I do, hence their position is similar to mine. Undoubtedly, there are '15 men in various cities to which I go, but I have no means of knowing that fact. When I was at the Institute on the Endowment Drive in November and December, 1919, I had many occasions to use the Institute's set of addressograph stencils. As I remember it, these are duplicate sets, or they are keyed in some way so that they can be run off by classes, geographically, alphabetically, and possibly other ways. The thought that I have in mind is that it might be possible to run off the 1915 set on a continuous sheet and that a copy of that could be sent to those members requesting it. The Institute might make a nominal charge, but I know that I, personally, would be glad to get such a list even though there was such a charge. Please let me know whether such a plan is feasible, either by writing me or through the class column in *The Review*. For the past several months our class news has been very interesting and I hope that you keep up the good work." This is a good idea and accordingly I am sending Jerry the list he asks for. I hope he will use it to find a lot of our fellows in his travels.

I saw this year's Tech Show in New York with Jeff Gfroerer, '16, and Tom Ryan, '16. With them was Potter, '10. It was a great show, a vast improvement on the shows of our day and was very well received by an enthusiastic and good looking New York alumni audience. I am sure we are all sorry that Dennie is resigning his position from the Alumni Association. He helped me personally a great deal in my new class job, and I am sure that every one joins me in extending to him the Class's best regards and best wishes for success. I recently attended a dinner of class secretaries which Professor Prescott gave in Boston. This was for the purpose of determining how we can complete the subscription for the Alumni Dormitory Fund. The quota for our Class is \$10,000 of which

1915 Continued

about \$1,400 has already been contributed by twenty members of a class enrollment of 571. It shouldn't be difficult for us to reach this total. Some of the fellows at the New York dinner felt that my requests in the first letter were too strenuous. I am leaving it up to you fellows to send in whatever you want. Some of the boys at the dinner pledged their amounts with me. Remember, fellows, you are not giving to the Institute, but you are contributing to help the students. It is a man to man proposition from the graduates to the undergraduates to help them enjoy better living conditions than we had. Moreover, the four rooms which we give will be a memorial to our Class and should be a matter of pride for us in the years to come.

At the convention of the American Pulp and Paper Association in New York in February, I saw Kenneth King, who is a manager for du Pont in Chicago, and Allen Abrams, who is with the Marathon Paper Mills in Wisconsin. Both boys looked fine, not much the worse for twelve years out of the Institute. Harvey, who was Course I or II, I think, is selling paper and board for a Boston concern. He often sees Bill Kelleher, who is in Boston with the Monroe Calculating Machine Company. Clive Lacy and Frank Scully are regular squash players around the University Club in Boston and I judge from their activities are in the big leagues. Frank Scully was recently made President of a merger taking in several sand and gravel companies in metropolitan Boston. Behold the height to which McCeney has risen: "Executive nominations received by the Senate, February 4 (legislative day of February 1), 1928. Foreign Service—To be Secretaries in the Diplomatic Service, McCeney Werlich, of the District of Columbia, now a Foreign Service officer, unclassified, and a consular officer with the rank of vice consul of career, to be also secretary in the Diplomatic Service of the United States of America. . . ."

From Boston comes the announcement, "Cleverdon, Varney and Pike, Structural Engineers" at 46 Cornhill. Our congratulations to Wally Pike. — Evers Burtner, XIII, is just as reliable as ever and writes as follows, enclosing a good contribution for our Dormitory Fund: "Enclosed is my contribution to the Dormitory Fund which, in my last letter to you, I said I would send in. Recently I saw Reg Pollard. However, as he is located at Springfield, I judge he has told you of his whereabouts. I suppose you had word that Harold T. Bent has been promoted to assistant hull superintendent at Newport News Shipbuilding and Dry Dock Company. Believe you are doing very well in the hard proposition of keeping class spirit going." Evers is in the Department of Naval Architecture and Marine Engineering at the Institute. Let's hear from Reg Pollard. I go to Springfield often and would like to see you, Reg.

We are planning another dinner in Boston and New York before summer time, and meanwhile will you fellows shower down on me all the good news that you can? My work has taken me to New York a great deal and I hope to resume there the friendship of many of our classmates. I have already planned to see several of the fellows who were at the

dinner, and I know I shall be very happy to be with them again. I cannot tell you all what a good man we have in Jim Tobey who has helped me so much recently during my stay in New York. — A. W. MACK, *Secretary*, 377 Marlboro Street, Boston, Mass.

'16 No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the April issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to RUSSELL H. WHITE, *Secretary*, Kardex-Rand Sales Corp., 118 Federal Street, Boston, Mass., or to CHARLES W. LOOMIS, *Assistant Secretary*, 7338 Woodward Avenue, Detroit, Mich.

'17 We have the privilege of publishing in these notes the first valuable constructive suggestion that has appeared during the long Dormitory Fund Campaign. The author is E. D. (Nig) Sewall, formerly with J. H. Horne of Lawrence and now with the Missisquoi Pulp and Paper Company of Sheldon Springs, Vt., of which H. E. Raymond, '03, is President. Mr. Sewall has the floor:

"There is a lot of talk in The Review concerning money for the dorms. I don't know, as yet, just how much our Class has raised, but I wish to offer the following which I know will be endorsed by at least ninety-nine per cent of our Class, to wit—During the ten years which have passed since the best Class that has ever attended the Institute was finally given its O. K. to be called Alumni (thanks to the War), there have appeared in our class notes in The Review a total of 8,246 lines of free advertising for Messrs. Lovejoy and Eddy. I understand the current rates are fifty cents per line, making a total of \$4,123.00. I do not suppose that you have received any commission on the above, nor know what your commission should be, but I should say that ten per cent would not be too low. I also feel sure that you would be perfectly willing to turn it in along with the rest of the \$4,123.00. Hence, the Class of 1917 has a nice little nest egg of \$4,123.00 + \$412.30 = \$4,535.30 towards a staircase for one of the dorms. I, therefore, recommend (with the unanimous approval of the ninety-nine per cent) that this little item be passed on to Brick Dunham and hence through the regular channels."

Contributing Editor, Charles E. Locke, says: "Mr. P. N. Rowe, '17, writes me that he is a member of the recently formed firm of Phillips and Rowe, Inc., E 18 Produce Exchange, New York, N. Y. This firm has been organized to conduct, as brokers and sales agents, a business in shellac, turpentine, rosin, and linseed oil. Rowe obtained valuable experience for this work when he served for some years as Buying Representative in India for the Rogers and Pyatt Shellac Company. — RAYMOND S. STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

'18 Not so much to write about this month, and I do wish the fellows would come across with news. I will again have to threaten to put in false stories and then correct them afterwards, just to make notes for the Class, unless something does come through.

Before me I have the folder about the book of Maggie Magoun which he promised to send me. I am sorry I cannot quote it all here, but I will give you the title, and so on. "The Frigate *Constitution* and Other Historic Ships" is the full title and the article states that there are 172 pages, 30 plates, 16 two-page plans, and 63 figures in the text. The other ships mentioned are the *Viking Ship*, the *Santa Maria*, the *Mayflower*, the *Flying Cloud*, and the fishing schooner, *Blue Nose*. The price on this book is \$15.00, so Maggie is not counting on the '18 men to pay much of the royalty to him. All we can say is that we wish Maggie much luck in the sale of his book and hope that it makes him one of the wealthy group of our Class.

News! Through the mail the other day came a card from Mr. and Mrs. John Merrill Hanley announcing the birth of a daughter, Joan, on February 7. Congratulations, Jack. We are looking forward to seeing you East for the Reunion in June, and then we can all say congratulations directly.

More news! In a clipping from the New York *Herald-Tribune* which was sent me, I quote the following: "Mr. and Mrs. Henry Warren Whipple of Cranford, N. J., announce the engagement of their younger daughter, Miss Priscilla Bradstreet Whipple, to Mr. George Belcher Cutts, of New York, son of the late Dr. Harry Madison Cutts and Mrs. William B. Fearing of Brookline, Mass. Mr. Cutts is connected here with the First National Corporation of Boston." Congratulations, George. Don't forget to let us know when the big event takes place.

As straight news of the Class that is all I have, but just for a few more words on one or two subjects. Word comes to me from the Alumni Office that four of our 658 members have contributed to the Dormitory Fund. In the 1919-20 Endowment Fund Campaign we came through with 278 members contributing \$19,500. The quota for the Dormitory Fund that has been given us is \$10,000, or 51 per cent of what we raised before. We certainly ought to be able to do something to raise at least a portion of this amount. We only have \$155 paid or pledged from these four members. If more of the 658 would send in their payments or pledges at the same rate we certainly would reach somewhere near what we should have. The Class of 1918 has never fallen down in what they have tried to do, so please don't let us do it this time.

Now about the Reunion. Plans are going ahead slowly but, nevertheless, there will be sufficient when the times comes. It is all heading toward a Reunion on the coast of Connecticut or Rhode Island, somewhere between New York and Boston, and not a stag party either. So tell your wives all about it, and plan for them to come along, too. Plans will be made to take care of them as well as to take care of you. Send in any ideas you or your wife might have for that weekend to me, and I will pass them along to the proper person or persons for consideration.

1918 Continued

Just as I am getting these notes ready for the press a clipping is sent to me from New York telling us of the death of Mrs. Louise Curry Harrall, wife of our own classmate Pete Harrall. Our sympathy goes out to you, Pete, at this time. — GRETCHEN A. PALMER, *Secretary*, 148 State Street, Boston, Mass.

'19

No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the April issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to PAUL F. SWASEY, *Secretary*, at 99 Washington Street, Boston, Mass.

'20

A welcome note from Willard P. Hooper comes to hand just in time to get under the wire for this month's Review. He tells me he is still at Wellesley College, and we would hardly expect a man to pass up an opportunity like he has, so we are not surprised to hear this. He also sends me the good news that a son, Wilfred Haines, was born December 31, 1927. Hooper extends a blanket invitation to the Class of '20 to come in and see him when at Wellesley. — I hear almost a year late that Edward Millard Howard became a proud father of a daughter in February, 1927.

I hope you fellows realize that the Institute is at least laying plans to build the badly needed dormitories and is relying on the Alumni to underwrite this worthy project. Please send your check direct to the Dormitory Fund Committee at the Institute. — HAROLD BUGBEE, *Secretary*, 9 Chandler Road, West Medford, Mass.

'21

During the month which has elapsed since your Asec last chronicled the meagre notes of '21 happenings, he has sent out quite a number of urgent and impassioned appeals to members of the Class for aid in the shape of news for these columns. One single solitary letter has been the reward of our efforts. To those who have not answered we say again, "Do it now!" Will the many others to whom we have not been able to write please pardon us, and send in letters just the same? Our statistics show that only a very small percentage of the Class answers calls for help. (We won't mention the figure for fear the Editor will enlarge on it, to the detriment of '21, in his résumé at the beginning of the Notes section.) If our readers would only realize that we have to write hundreds of letters where they need send but one apiece. How we would be swamped if they all did! I wish it would happen, though. From the large silence one would think we were asking for money, when all we want is letters — one letter apiece — from each of you.

To Winter Dean, XV, go our thanks for saving '21 from The Review's conventional obituary announcing that "No notes have been received, and so on." Wint, whose address is care of Nicols, Dean, and Gregg, St. Paul, Minn., sent in that aforementioned lone letter which reads thus: "I was glad to get your card of the eighth and realize that I

haven't written a . . . ("Keokuk" suggests it — Asec) . . . note since I left Boston in 1921. I worked in the East that summer and came out here in September, 1921. After putting in a couple of years traveling on the road selling our line in the small towns they pulled me into the office. I have been in charge of our storage battery department for the past three years, working chiefly as a buyer, and I am also in charge of our warehouse here. We have six states up in this section of the country as distributors of batteries and also have our regular general jobbing business on heavy hardware, contractors' and railroad supplies, automobile tools, equipment, and parts.

"I was married in September, 1922, to Muriel Smith who, up to that time, was in the Class of 1923, Course IV.

"I haven't seen any of the '21 men you mentioned except Addicks, X, who was in town for a day last fall. I understand he is working for a trade paper called *Gas* which I should think would permit expressing oneself properly. I get a Christmas card every year from Al Kruse, IV, and then forget to write the Institute to find out what his address is so I can send him one the next year. [The *Register* gives Al's address as 2212 Zilpin Avenue, Wilmington, Del. — Asec.] I haven't heard from Paul Anderson, IX, for a couple of years, but I understand he is still in Jamestown, N. Y.

"Bob Barker, XIV, came out here about a year ago and went to work for a firm of electrical jobbers in Minneapolis. His firm was absorbed by the Great Northern Electric Appliance Company, and they in turn are owned by the Westinghouse Company. Bob is sales manager of the Minneapolis branch. I see him once in a while, and hope they will move him over here to their main office before long." Here's how, Wint.

In the absence of letters we got out the false whisks and the magnifying glass and extended the diligent search for notes to other sources. This resulted in the Patent Office Gazette yielding up the news that M. A. Youtz, V, is a research chemist with the General Motors Corporation, Detroit. Rumor also hath it that J. S. Cummings, VI, is engaged or married or something. How about it, John? The powerful magnifying glass shows meanderings of H. F. Stose, XIV, and family to the south of their present habitat, which we hope to be able to explain in our next.

Of course we don't intend it as a threat, but the whisks and glass will get you if you don't watch out — so why not write that letter now? — R. A. St. LAURENT, *Secretary*, 431 Oliver Street, Whiting, Ind. CAROLE A. CLARKE, *Assistant Secretary*, Victor Talking Machine Company, Camden, N. J.

'22

From his former association with The Review, your Secretary happens to know that large black numerals to the left require a minimum of seven surrounding lines of copy to present a correct typographic appearance. There are four short ones; there should be three long ones to carry full measure. It is only to ease the difficulties that beset The Review management that we have supplied this minimum for the April notes, and having done that (and a little more for

good luck) we withdraw from the scene, for there just isn't any news. No one writes, no one calls, no one does anything. Until such time as this lethargy is shaken off, the notes will continue to reflect it. . . . Last minute bulletin from Charlie Locke, who knoweth all things: "Mr. and Mrs. R. W. Edmonds announce the birth of a son, Hugh Whitney Edmonds, January 20, 1928, weight six pounds, thirteen ounces." — ERIC HODGINS, *General Secretary*, 8 Arlington Street, Boston, Mass.

COURSE II

In less than week after the circularizing of the Course with a questionnaire I had news from over fifty of the gang. That is spirit; all we needed was a start and a little capital investment. The far off points will be reported at a later date. I hope. We might and will reduce the results of this canvass to statistical form and submit the number of wives and children per capita, the total number of years of married bliss enjoyed by the Class as a unit to date, total earning power (to date only one member has reported his salary on the cards). In fact, this will be a summary of the number of presidents, vice-presidents, secretaries, and treasurers of which the Class may boast at this early stage in its career. The comments on the cards were of a personal nature, and my hearty greeting is extended to all except Johnnie Molinar, who was very personal in his "Comment." He pointed a direct itinerary for me in the hereafter. Same to you, John old boy. The two spicy letters from John Plimpton and Fry Spier are appreciated and duly acknowledged. They were the bright spots in the mail and I thank the addressers.

Here follows a statement of the replies and some of the dirt, but I will follow in the next three issues with more detailed dope. If, in the meanwhile, any one wants addresses or information concerning the boys below, I will be glad to forward it personally. Dick Aaron, Doc Abboud, Herb Allee, App Apollonio, Bill Bates, Art Bennett, Johnnie Blaker, Ed Bowditch, Oates Bower, Irwin Cassidy, Eb Clemens, Cliff Clifford, Frank (Prof) Connors, Bill Cooper, Jegger Deane, Link Dodson, Ray Ellis, Emmy Emerson, Bryant Essick, Mike Galvin, Harry Folinsbee, Monte Griswold, Chet Greening, Russ Greenough, Carl Grip, Syd Hall, Ham Hammond, Phil Hastings, Gus Hemeon, H. H. Hile, Looie Hill, Heinie Hindes, Randy Hogan, Ash Knight, Bert Krantz, Lipp Lippincott, Mac Macomber, Mac McCurdy, Mal McGhie, Ken Merriam, Randy Meyer, El Mink, Johnnie Molinar, Dave Oatman, Harry Pearson, Paul Phillips, Johnnie Plimpton, Hazy Pratt, Dan Reed, Al Redway, Sam Reynolds, Irv Rosbeck, Martin Rossiter, Elmer Sanborn, Schutty Schumacker, Jr., Eastman Smith, Dyno Spaulding, Fry Spier, Stoney Stone, Don Stowe, Lee Swem, Jim Truslow, Bailey Upham, Link (Missing) Vaughan, Larry Washington, Art Wasserman, Irv Whitehouse, Ham Williams, Willy Williams, and last only because his name begins with a Z, Jim Zurlo.

That's the roll of honor as of February 20. If thanks could be measured in gallons (not quarts or pints), I would ship you a tank car. It is great to have news from so many, and I'm sure the wandering sheep will return to the fold soon, as I hate to see those double

1922 Continued

post cards of the Alumni Association going to waste. Of course the final count is not in as yet, but to give you a chance to see how well our Course is progressing in its work of propagation as well as sowing the seed of mechanical genius in this universe, I can give you the unofficial count of forty-four offspring that have fathers above. Guess them yourselves. I'll tell you later if you are wrong. Irv Whitehouse has four. But Irv stole a march on us all by starting back in 1921. Frank Connors tried to catch him and almost did with a set of twins. I am betting on Frank.

The correspondent's address has changed again. The old men, Crew and Levick, turned over simultaneously in their graves, talked it over and thought that Jawn Sallaway was getting too fat on country life and decided that the big city should be his feed for a while. So here I am, still with Crew Levick as sales manager of Long Island with operations on Manhattan thrown in for good measure, just to keep me busy. When you're in town, grab the phone and try Vanderbilt 6920, and we will shovel a bit, hoist a few, or whatnot. Try it once and you will come back for more. Thanks for the dope, Fellows, and we will be putting out an extra if the cards keep coming in. — JOHN E. SALLAWAY, *Secretary*, 2714 Grand Central Terminal, New York, N. Y.

COURSE XIII

Shortly after writing our last drip for these columns we received an engraved (actually) announcement of the wedding of Wendell P. Sammet. This event really occurred some time ago, and it is probably news to no one by now. But such an important event in the lives of the old Thirteeners should not be allowed to slip by unnoticed by the official record. The score now stands seven married, ten single, paired, Maling-Bernard. Some have been married for so long it is almost time for divorcees to evidence themselves.

Charles Chase, we understand, has left the sea and was last seen installing telephones in the Bronx and charging \$1.00 extra for an adjustment permitting the telephone to talk Yiddish. — Alan Bowers is a constant visitor to your Secretary's headquarters. Consequently, we find it easy to discover something interesting to say about him. In fact, we intend to hound him until he takes this job of secretary off our hands. Very ill-kempt is Alan these days. Why, he was actually discovered calling on a young lady with the knees of his trousers all covered with dust. This means little to any except the married men and the escaped-by-the-Grace-of-God people like your Secretary who have been through it all before.

The gentlemen who turn green with envy because of not seeing their names in print would do well to write me stating their whereabouts and whatabouts. I'm not Will Rogers and can't use up space by kidding the public or J. Alan Bowers interminably. — C. FORD BLANCHARD, *Secretary*, Moody's Investors Service, 35 Nassau Street, New York, N. Y.

'23

Since the last Review came from the press, the Gensec has received a goodly number of replies to the Five-Year Reunion Questionnaire sent out about a month or so ago. However, at the present writing there are still a number of fellows yet

to be heard from, and let this be a reminder to you that June is only three months away.

Among the returned questionnaires of those who are looking forward to the gathering of familiar faces next June, there was a note of sadness from the mother of Walter F. McAvoy. We were very sorry to hear that Walter passed away on December 28, 1927, and we want to express our sympathy to his mother and to the other members of his family.

I received a letter from Bert McKittrick. Mac is still a prosperous mill supplier in Lowell and would be glad to have any '23 men drop in and see him at 64 Fletcher Street. In closing Mac says, "I have been looking forward to receiving some word of the Reunion, as I have been planning on attending if circumstances permit at all. Let us hope that all the fellows we know attend the Reunion so that we can at least see whether they have grown fat, thin, or in what way they have changed."

A note arrived from Harry Thompson, who is now in New Mexico. Harry was forced to migrate to New Mexico because of his wife's ill health, and is working on a reclamation project which includes draining, flood protection, and irrigation work. Harry announces that he is now a daddy but forgot to say whether it is a boy or a girl.

George Hurly says on the back of his questionnaire, "It is indeed a pleasure to turn one's thoughts towards our Five-Year Reunion. I intend by all means to be present at this Reunion, providing, of course, that I am able to leave my work for a few days." George goes on to say that he has been rail-roading since graduation and is now on special duty for the New York Central in New York City, and would be glad to see any of the boys who are in New York, at 466 Lexington Avenue, Room 1454. George also announces that he is engaged to Miss Mary E. McAvoy of Albany, N. Y. Congratulations, George!

It seemed good to hear once more from Kid Heiss, who is still with the Chesapeake and Potomac Telephone Company, Washington, D. C., now as sales supervisor. Heiss is on the fence, but here's hoping he falls off in the right direction. He said in his letter, "Dippel was here in Washington a few weeks ago on his way to Texas; Dame Rumor hath it, to see a girl. Put that in The Review!"

Then along comes a very welcome word from Dip himself in which he makes it all clear: "I expect to marry in the middle of June, so my chances of attending are very slim, especially as I must come from way down here in Texas to do it."

A note from Warren Center explaining why he will be unable to attend the Reunion revealed that more than one man's share of hard luck has fallen his way. While working at Pratt and Lambert's in Buffalo learning the varnish industry, he was stricken with infantile paralysis which paralyzed him from his neck down. This happened in August, 1926, and since then Warren has been fighting to rid himself of the paralysis. After five weeks in the hospital he was sent home to East Lynn, Mass., to recuperate. At present his condition is much improved, but he is still a long way from perfect health. Warren is living at 59 Autumn Street, East Lynn, and I am sure he would be glad if some of his classmates

would drop in on him once in a while, or at least drop him a line.

Pete Pennypacker from New Jersey sends the following; "I am with the Marine Engineering Corporation in Philadelphia, and my work is of such a nature that it is difficult to predict just how busy I shall be next June. Unless I am working overtime, or unless there is a sudden demand on my effort in a business direction, at the time of our Reunion, I shall certainly be there."

W. A. Gallup says that he will surely be at the Reunion, also that he is the father of two prospective coeds. Another bit of news about Gallup appears in the form of a publisher's announcement.

Bill Greenough says he expects to be at the Reunion although he is now located in Houston, Texas. It appears that a radical change has taken place in Bill's life for after the question Married? he says "Yes." When and to whom, Bill?

A few returns have already arrived from overseas. J. Westgarth Voelcker says, "It's a darn shame that there is no benevolent institution to enable blokes like myself to join in these Reunions from overseas, so I can only wish you all the best and agree with the official suggestions—Back Bay, Revere Beach, or anywhere in New England would suit me finely. I am still with the English Electric Company at Preston in charge of the traction research department. We have not had many visitors recently, and in any case there is always a deplorable absence of your brand. By the way, are there any classmates over in this country? Getting drunk alone is merely painful. Don't forget summer is coming and perhaps some of you will be invading Europe thirsting for knowledge and good beer; in which case I should appreciate acting as landing officer—work permitting—at Liverpool, where, under the awakening of past memories, I would endeavor to thaw out of our customary native reserve and iciness, and give you a warm welcome."

From the American Embassy at Berlin comes the following message from H. H. Zornig, "I am sorry that my distant station will prevent my attending the Reunion. My best wishes, nevertheless, for a rousing good time for all of you."

I am sorry that space will not permit extracts from a number of other interesting notes; however, we will print as many as possible before June. If the present returns of the questionnaires are any indication of a successful Reunion, this is going to be a real Reunion, and one you can't afford to miss. — ROBERT E. HENDRIE, *General Secretary*, 12 Newton Street, Cambridge, Mass. H. L. BOND, *Assistant Secretary*, 18 Greenwood Avenue, Hyde Park, Mass.

'24

Course I: some of us have adopted extreme means in order to provide news for this column. A card, recently received, informed me that Ellis Oliver Jones, 4th, was born on January 19. Ollie, 3d, still resides in Pontiac, Mich., where he looks out for the interests of the Consumers Power Company. — No card was needed to herald the advent of Alan Douglass Fitch on February 5. I am already looking forward to cessation of work and a life of ease some sixteen years hence.

1924 Continued

To the family of Mr. and Mrs. A. J. Bone was added last April 30 a daughter, Dorothy G. Only Bone's reticence accounts for the late recording of this important fact. I saw him recently at a combined meeting of the Boston Society of Civil Engineers and the A. S. C. E. here in Boston. He is now assisting Professor C. B. Breed in his private practice as consulting engineer.

Also present at this meeting were Nathan Ginsberg and Stanley Higgins. Ginsberg is still with Stone and Webster, and Higgins is now connected with the engineering department of the Town of Lexington.

Curley Fletcher writes that another water power project is soon to be started on the Tallassee River, so that he will remain in that territory for some time to come. Curley is to act as engineer on the power house, while Jack Nevin will have complete charge of control and testing of concrete.

You still have time to communicate with me before I prepare my notes for the last issue of *The Review*. — JOHN D. FITCH, *Secretary*, Charles T. Main, Inc., 201 Devonshire Street, Boston, Mass.

'25 While I was in Syracuse over the week-end of February 18, I saw Robie, and was delegated to write his Course I notes for him, as he has been out of touch with his classmates since leaving Boston, and naturally didn't have any news. He and four others from the Boston Office of Stone and Webster are working on a large extension job for the Atmospheric Nitrogen Company. Robie's particular work at the time I saw him was checking the design of some long steel roof trusses. The five of them are all living in the same house, a very pleasant one, too. Robie seemed very much pleased when he found he could see good shows once in a while, and also hear good music in Syracuse. Those are two good reasons for preferring Boston, New York, or any other really big city above the towns of the hinterlands which boast only movies.

Unfortunately for these notes, but not for me, I didn't get as far as Buffalo, so I can't tell you what Roger Ward is doing to help provide the army with airplanes. — Mr. and Mrs. William L. Hazen of 440 Riverside Drive, New York, announced the engagement of their daughter, Miss Elizabeth Starr Hazen, to Burrit A. Cushman, Jr., on December 20. Miss Hazen attended the Barnard School for Girls, and was graduated from Smith College in 1924. — Jake Squire is also engaged, but that's the only detail that we have at present. There are others who are engaged or on the way but, unfortunately, they seem to be keeping it a secret. This isn't the right spirit at all; if you are thinking of getting married, let us hear about it. Some of the fellows don't even let us know when they get married, so in a few cases we hear that some one is a proud father before we hear he is married. This doesn't look so good on their cards in the class files! — Pen Dell is working in New Haven for the New York, New Haven and Hartford Railroad in the department of building construction, I believe. It must be fine to be able to travel free anywhere on your own road. — FRANK W. PRESTON, *General Secretary*, 17 Gramercy Park, New York, N. Y.

COURSES III AND XII

The news for the past two months concerns only those here at the Institute. Professor and Mrs. H. T. Mann announce the birth of a son, H. T. Mann, Jr., on January 25, 1928.

Although Blonsky is with us at the present time, by the time this appears in print he will probably be elsewhere. He has been very busy during the past week demonstrating the salient points of his invention in concentrating ores and cleaning coal. Representatives of a prominent New York concern have been here watching the demonstration and seem quite favorably impressed. I know the Count has the good wishes of all his classmates in his venture, and most especially of the members of Courses III and XII. — M. J. Buerger presented a paper at the annual meeting of the A. I. M. E. in New York on February 22. The title of his paper was "The Cause of Translation Striae and Translation Strain-hardening in Crystals."

During the usual two-week period between terms, your Secretary was at Washington, D. C. Most of that time was spent with Dr. Bowie and his associates, studying the methods and apparatus employed by the United States Coast and Geodetic Survey in their work on the determination of the absolute value of gravity. Time was found, however, to visit the Bureau of Standards, Geophysical Laboratory, Bureau of Mines, and Carnegie Institution of Terrestrial Magnetism. Most of these institutions are conducting quite extensive research on various geophysical methods which may have a direct bearing on the study of scientific prospecting. Some opportunity was found to visit a few of the other prominent national buildings, also. — F. LEROY FOSTER, *Secretary*, Room 8-219, M. I. T., Cambridge, Mass.

COURSE V

Being still in the throes of communication with some of the members of this grand and glorious Course, I have very little to offer in the way of news. During a trip home a short time ago, I drove to Lynn to call on the Breers. Paul was at home, worse luck, so the four of us went over to view the ruins of the Beacon Oil Plant in Everett where a serious explosion occurred. I guess I pulled a right royal bone that time, but you birds can all give three lusty guesses as to the fourth member of the party.

We were considerably saddened by the pitiful little pieces of crêpe which were hung at the doors of the shanties that surround the plant. Paul described a similar happening that occurred some time ago at the leather plant where he now takes his morning and afternoon naps. A tankful of naphtha let go that time and did a lot of damage. Paul's regular job was bending over that tank at periodic intervals taking samples. But, as usual, he was outside loafing behind a cigarette and composing himself so he wouldn't laugh too hard when he drew his pay that night. Congratulations to Paul and our deepest sympathy to his Missus. Some women are born to hard luck. — GERALD MILOT, *Secretary*, 117 Pine Street, Attleboro, Mass.

COURSE XIV

Stephen Vasili Zavoico has been found! Although this starts like a Russian novel, it is pure history. The historian chanced to be

visiting the Bethlehem Steel Company at Bethlehem, Penna. While having lunch at the company restaurant along came Steve and tapped me on the shoulder. While a film of ice formed over the once hot soup we exchanged condensed reports of our careers to date. Steve has been at the Bethlehem plant ever since graduation. It appears that he did not know of my attempt to reach him at Leningrad, a false alarm, seeing that he has not been there in all that time.

He is working in the combustion department, which specializes in the utilization of valuable waste gases found in blast furnace operation, and on other allied problems. His work is all in the research end. He admitted that he was satisfied with his job. A letter addressed to him at the above department of the Bethlehem Steel will reach him.

We can't expect many such lucky accidents, but here's hoping. — HOLLIS F. WARE, *Secretary*, 587 West Market Street, York, Penna.

'26 Before presenting to an envious and admiring Class a summary of the political activities of Bill Lowell, it is mete that a matter of some less importance be herein mentioned. Your public servant and General Secretary, der Konvergenzpunkt, taking the duties of its office somewhat seriously despite contrary rumors, is engaged in collecting memorabilia for the 1926 Archives. To date one very important item has eluded the most careful searchers, namely, the Freshman Greybook of the Class. Seemly the only way to obtain one is to issue an open appeal in the hope that some one has an extra copy that he is willing to donate. If, happily, some one has, the Secretary stands ready with profuse thanks to receive it in behalf of the entire Class. Any other items of general interest such as Field Day relics, letters of a freshman to his sweet sweetheart, pressed flowers, or copies of the *Filter Paper* will add to the completeness of the collection.

An undercurrent of rumors and reports has connected William Plummer (Bill) Lowell with the political advancement of Andrew J. (Bossy) Gillis, famed mayor of Newburyport. One group of rumors has it that Bill was a great supporter of the renowned Bossy. Still another set maintains that Bill is one of his most active enemies. In fact, this is Bill's version. Be that as it may, Bill is an active member of the Newburyport body politic and has been known to contribute expert advice to candidates in adjacent townships. All in all, it would seem that he is priming himself for a great career in professional politics. Perhaps in some greater era to come, Bill will be a Papa Stearns to a President Gillis.

Ned Lane, all honor to his name, has written from 2 West 10th Street, Charlotte, N. C.: "My pity and sympathy goes out to you in your task of driving the Konvergenzpunkt. Just to show you that a spark of humanity yet remains, here is a contribution. Last fall was spent in Western Pennsylvania, seeing how dead a land may be. As a comic relief I stopped in Newcastle to see Mark Greer — much married but not settled. We talked crew and shop. Had Sid Brookes at home once to take him away from the night

1926 Continued

life of New York. Same old boy with the women.

"I have just arrived in the Carolinas. Needless to say, I am Vice-President in charge of Carolina sales of a very important company. My impression: Men in offices who glare and threaten to bite; wet, slippery mud roads; a marked scarcity of pretty girls; a shameful superfluity of Georgia Tech men; a haunting dream of dining tables laden with yams, corn bread, grits and pork; over all a halo of corn whiskey. There is no place like Boston."

A welcome letter has arrived from Al Warner. Al is with the experimental department of his father's company, the Warner Electric Brake Corporation, Beloit, Wis. It is a continuation of the thesis work which he did here at the Institute. I quote from his letter: "... it looks better every day we work with it. So far the company has a Packard, a Nash, a Stutz and a Chevrolet. The first three cars are equipped with our brake and are performing very well and as soon as we get time, we will equip the lighter car."

"The brake that we are using has only one similarity to the one that I wrote my thesis on and that is the magnet from which you gain the motive power. Since then our engineers have hit on a means to slightly complicate the brake, but it is gaining a mechanically great increase in power and it has enabled us to brake vehicles with loads as heavy as twenty tons very successfully. At present we are just starting production on our trailer brake and truck brake, which we call a heavy duty type, and are still experimenting with the passenger car brake."

"I just got back from a trip to El Paso, driving a Nash and covered 4,000 miles in ten days. The results of the test were entirely successful and very satisfactory and it more than bears out my claim that there is not a passenger car brake on the market that can anywhere nearly equal performance of our Electric Brake."—J. R. KILLIAN, JR., General Secretary, 13 South Russell Street, Boston, Mass.

COURSE I

Almost two years have now gone their way since Commencement, but the wandering propensity of the Civils continues unabated. If the total number of miles covered by the ninety-odd members of Course I were added day by day, they would be seen approaching infinity at an alarming rate; if all the money expended on railway, steamship, and taxi fares were gathered together, the national debt of France could be paid off without a murmur, and enough would be left over to supply all the boys with stamped, addressed envelopes to write us; and, finally, if all the jobs held were still open, the unemployment situation in England and the United States would be entirely relieved. All of which statistical data is deduced, not so much from correspondence with the wanderers but as a result of a glance at a new list of addresses and vague rumors about the whereabouts of our classmates.

Among the foreign legion, hewing their way through a wilderness of computations, and setting up new outposts (slopestakes) in the wilderness, are Garcia, whom we find working for the "Compania Uruguaya de Cementa Portland" (what a disguise!) at Montevideo,

Uruguay; Bill Rivers with the Standard Oil Company at Calcutta, India; Jeppe in Johannesburg, South Africa; Packard, now in Quebec; and several others.

Whit Ashbridge, still with the Foundation Company, was shifted to their Pittsburgh office where he is now engaged on work on the new Detroit-Windsor bridge.

Among all the long-lost sons of M. I. T. none has hitherto been less in evidence than Ed O'Neil, who has retired to the seclusion of Rochester, N. Y., since June, 1926. Part of his letter follows: "Say, Bill, don't sell this letter to the Technology Alumni Confession Magazine. If I thought you were still writing for it, I'd stop right now. The fact that you formerly enjoyed such a connection was the chief reason for my delay in contributing to your mail." To this we must, of course, add that our connection, tenuous though it may be, still survives the vicissitudes of letterless months, and if we imagined for a moment that fear of exposure was the reason for lack of correspondence, we should have suggested a way around this long ago: merely underline the lines which are open to publication, or as an alternative, write the rest in red ink. All of which leads to the inquiry: Have our fellow graduates arrived at that longed-for position where, with a royal gesture of disdain, they can remark to the assembled reporters, "I have no statement for the press today"? Or must we adopt the convention of an "official spokesman"?

But to go on with Ed: "I'm in the contracting business with my father. In my spare time I draw plans for other builders. Poor deluded people—they think I'm an architect! In addition, I run a gasoline filling station where I can utilize all the knowledge I so laboriously acquired at Technology. Having had Triple E lab, I know all about the theory of applying air to deflated tires, and then again, when some lady comes in for red oil for a tail-lamp, my E. E. E. experience comes in handy."

Turning from the realm of work to that of sport, our eye is gladdened by the successes of two of our best-known classmates, George Leness and Joe Levis. George has been burning up the boards in the "600" this winter, and Joe has thrust and parried his way to a high rating in the fencing world. Both have excellent prospects of making the Olympic trip this year.

Deluged with work on all sides, we are making a noble effort to correspond with all our fellow civils, but writer's cramp, myopia, and exhaustion of the fountain pen are all combining to make our task a difficult one. So if you have not heard from us yet, bear up under the loss and write us a letter of encouragement.—WILLIAM MEEHAN, Secretary, 94 Montebello Road, Jamaica Plain, Mass.

COURSE XII

Not having reported myself since the Month of the Big Wind, or thereabouts, I have at length felt again the urge to promulgate a few feeble phrases for the general benefit of no one in particular.

I got back safely from Venezuela last May with nothing worse than a shot of malaria by way of a souvenir. At the moment I have not even that for a remembrance and hence, to remind myself of past glories, must delve

into the treasure chest wherein rest such items as cone-shaped pieces of tin foil marked "Veuve Cliquot-Demi Sec." Here's how!

For the present I am striving mightily to increase the overproduction of crude oil in the United States. I realize that such endeavor is to be censured, but what is one to do with the wolf ever scratching at the door? In the furtherance of the above-mentioned labor, I am leaving this week for the wild, wide spaces of West Texas where, shortly, I expect to efficiently scrutinize the progress of a round hole starting at or near the surface of the earth and going down to parts unknown. On with the dance; let oil be unconfined!

Speaking of one thing or another reminds me that every now and then I get some glad words from my old friend, Bill Callahan. He's down in ol' Virginny with the Bertha Mineral Company (Austinville, Va., to be exact). Last I heard he was busy punching diamond drill holes into the unoffending topography and in his off hours digging lesser albeit more verbose holes on the similarly inoffensive greens of the local golf course. However, some time has elapsed since he last wrote me, and I am beginning to suspect that he has pinched the diamonds out of the drills, and, on the strength of such affluence, has eloped. If such be the case, he is having his diamond wedding day some years earlier than most people.—WILLIAM B. MILLAR, Secretary, Farmington, N. Mex.

'27

As the dead line approaches with no Course I and XI notes from Lee Miller, we assume that he is still busy uncrating furniture and trying to get settled in Cortland, N. Y. We got his new address, 18 Park Street, into The Review last time, but too late for us to call attention to the change.—As you were! Lee crashed through after the above lines were in type. His notes are included, thanks to the magnanimous, big-hearted Review Editors.—We might note here that nothing has been heard from Course III for several months. Page Leonard B. Riley!

Johnnie Drisko sends another twenty pfennig *postekarte* to say that a check for the Senior Week Committee has been received at his home in Winchester, Mass. Not knowing how much it is, we are fervently hoping that it will balance the small charge which Facey, the printer, holds against Joe Burley for Pops Concert posters. Joe, by the way, is working for a Master's degree and trying to see how many departments will allow him to play around in their labs. He (a Course XV man!) is doing a thesis in the Electrical Measurements Lab, and I found him working over in one of the analytical chemistry laboratories the other day.

From Washington comes a letter from Ted Ordman, VI-C, who is now in the Patent Office. On the side he attends law school, and he says, "... nothing has happened here except another siege of exams, this time at the law school where I am trying to acquire some information concerning that subject. They were rather tough because they were so different from the type of exams I have been used to at Technology. They seem to expect a fellow to write a young book on each question and then they are not satisfied."

Although Dick Cheney, skillet engineer at the Troy, Ohio, plant of the Hobart Manu-

News from the Alumni Clubs

Dayton Technology Association

THE Dayton Technology Association had a very successful meeting on Monday, February 20, with Orville B. Denison, '11, as an added feature. About forty Alumni were present. All of them enjoyed the movies and Mr. Denison's talk following the dinner. A vote of thanks was given Mr. Denison for his work in the past few years as Secretary-Treasurer and our best wishes were extended to him for a successful career in the business world.

Lieutenant Sam Mills, '21, took the photograph of the dinner group just before we started and delivered the finished photograph an hour and a half later, having made the eighteen mile round trip to Wright Field, developed and printed the photograph, and appeared in time to hear Mr. Denison give us a most interesting report on Technology activities.

This meeting of ours was rather irregular, inasmuch as we usually get together on the first and third Saturdays of the month for the noon luncheon at the Engineers Club. An invitation is extended to all visiting Alumni to drop in and join us when in Dayton. — R. E. Robillard, '20, Secretary, Frigidaire Corporation, Dayton, Ohio.

Technology Club of Kentucky

At their open meeting at the Pendennis Club on February 15, the following resolution was passed unanimously: Be It Resolved that the sentiments of the Technology Club of Kentucky concerning the resignation of Orville B. Denison, as Secretary-Treasurer of the Alumni Association are entirely in accord with those expressed in the Resolutions adopted by the Alumni Council on January 23, 1928, and that the Club wishes to express its appreciation of the successful results of Mr. Denison's several visits to Louisville. Be It Further Resolved that these resolutions be spread upon the minutes of the Club; that they be transmitted to the President of the Alumni Association; and that a copy of them be presented to Mr.

Denison as a token of the regard and appreciation of the Club.

This was an open meeting for the ladies and was much enjoyed by every one, as is to be expected when Dennie is the chief entertainer. He led the singing of Technology songs between the courses of an excellent dinner arranged by Curtis C. Webb, '10, our

President for the past year. Dennie also delighted the gathering with a number of the songs from his limitless repertoire. At the end of the repast, the President and Secretary arranged, as an additional entertainment, the holding of the annual elections. In his absence, the Vice-President, Everett R. Cowen, '07, was advanced to President.

Archie P. Cochran, '20, former Secretary of the Club, was elected Vice-President; and Walton T. Davis, '23, who has returned to Louisville after an absence of several years, was made Secretary. His address is the Aetna Oil Service, Inc., 1202 South Third Street, Louisville, Ky.

After the election, Technology movies were shown and were much enjoyed by the Club. Dennie then gave an interesting talk on affairs at the Institute and the plans of the Alumni Association. Having completed his talk, he was easily prevailed upon to give more of his piano-logues for some time after the meeting had adjourned officially. The following were present: Lewis S. Streng, '98; Mrs. Streng; Curtis C. Webb, '10; Mrs. Webb; James Clark, Jr., '90; Eugene G. Luening, '09; Mrs. Luening; William H. Koppelman, '04; Archie P. Cochran, '20; Dugald C. Jackson, Jr., '21; Mrs. Jackson; Courtenay Worthington, '25; Walton T. Davis, '23; Galen A. Wallace, '25; Theron P. Bailey, '24; and Lenvik Ylvisaker, '27.— D. C. Jackson, Jr., '21, Secretary, Speed Scientific School, University of Louisville, Louisville, Ky.

M. I. T. Club of Central New York

The M. I. T. Club of Central New York held a dinner recently at which Orville B. Denison, '11, Alumni Secretary, was the honor guest. The dinner was given at the Hotel Syracuse and about thirty members of the Club were present. Several reels of most interesting movies on Technology were shown.

New officers of the Club, elected for the ensuing year, are as follows: President, J. Murray Hastings, Jr., '13; Vice-President, Fred S. Hungerford, '24; Secretary-Treasurer, Frederick W. Barker,

Stated Meetings of Local Associations

ATLANTA	Luncheon: Fridays at 12:30 P.M. at Hotel Ansley Grill
BIRMINGHAM	Luncheon: Third Thursdays at Tutwiler Hotel
BOSTON	Luncheon: Tuesday noons at University Club
BUFFALO	Luncheon: Fridays at 12:30 P.M. at Chamber of Commerce
BUTTE	Dinner: Monthly except in summer. Consult officers for dates.
CHICAGO	Luncheon: Tuesdays at 12:30 P.M. at Electric Club
CINCINNATI	Luncheon: Tuesdays from 12:00 to 2:00 P.M. at Hotel Havlin
CLEVELAND	Luncheon: First Fridays at 12:15 P.M. at Allerton Club Residence
DAYTON	Luncheon: First and third Saturdays at Engineers Club
DENVER	Luncheon: Joint luncheon with Engineers' Council third Tuesdays at Albany Hotel
DETROIT	Dinner: First Mondays at 6:30 P.M. at University Club
HARTFORD	Luncheon: Second and fourth Thursdays, October to June, inclusive, at Hub Restaurant
INDIANAPOLIS	Luncheon: Every Friday noon at Chamber of Commerce Dinner: Monthly evening meetings, usually third week in month
KANSAS CITY	Luncheon: Second Wednesdays, usually at University Club
LOS ANGELES	Luncheon: Every Friday noon at University Club
MEXICO CITY	Luncheon: First Wednesdays at University Club
MILWAUKEE	Luncheon: Every Thursday noon at University Club
NEW YORK	Breakfast, Lunch and Dinner: Daily at the Club
PEKING	Dinner: Monthly except in summer. Consult officers for details
PHILADELPHIA	Luncheon: Thursdays at 12:30 P.M. at Wanamaker's Tea Room
PITTSBURGH	Luncheon: Fridays at 12:15 P.M. at McCreery's
SAN FRANCISCO	Luncheon: Fourth Tuesdays at Engineers Club
SHANGHAI	Luncheon: First Tuesdays, alternating between noonday meetings at Carlton Café and evenings at Union Club
TOKIO	Meetings: Annual Meeting first Friday in May. Quarterly meetings in late February, late September, and early December
WASHINGTON	Luncheon: Fridays at 12:30 P.M. at University Club. Speaker luncheon each third Friday except during summer

Jr., '12; Executive Committee, Walter E. Hopton, '91, and Merton L. Emerson, '04.

Edwin W. Bonta, '07, has moved to New York to join the architectural firm of Goodhue associates. — Frederick W. Barker, Jr., '12, Secretary, First Trust and Deposit Company, Syracuse, N. Y.

Technology Club of St. Louis

The annual meeting of the Technology Club of St. Louis which was held at the Hotel Coronado on Friday, February 10, resolved itself into a farewell banquet for O. B. Denison, '11, the guest of honor. Dennie spoke on the new developments at the Institute and showed us two new reels of motion pictures. The St. Louis Club is sorry that Dennie is resigning. We all know that his success is assured in whatever field he may choose to enter.

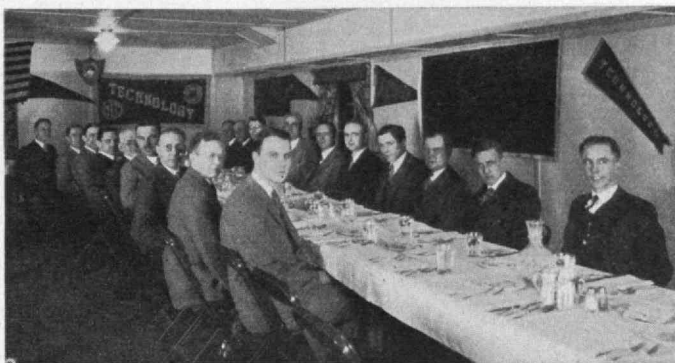
Mr. W. C. Dickinson, a member of the third class to graduate from the Institute, that of 1870, told us of conditions at that time. He has not failed to attend a banquet of the St. Louis Club in many years.

After a discussion of the Alumni regional scholarship and the financial affairs of the Club, the meeting proceeded to the election of officers. The officers for the new year are: John T. Rule, '21, President; Sam F. Gordon, '23, Vice-President; Phillip E. Morrill, '14, Second Vice-President; L. B. Van da Linda, '18, Secretary; Ray Mancha, '26, Assistant Secretary; and the following members of the Executive Committee: J. L. Mauran, '89; E. C. Klipstein, '94; Leslie Dana, '94; Firmin DesLoge, '02; Ray Holden, '23; John Locke, '08; M. E. Epstein, '23; F. B. Menner, '07; G. B. Bradshaw, '03; E. D. Cahill, '26; D. B. Coleman, '23; H. DeStaebler, '21; and E. C. Little, '98. — Lloyd B. Van da Linda, '18, Secretary, N. E. Mutual Life Insurance Company, 1020 Boatmen's Bank Building, St. Louis, Mo.

Southwestern Association of M. I. T.

When we received the February issue of The Review, the first article that met our eyes contained two pieces of bad news. One was very bad, and we could do nothing to remedy it. I refer to Denison's resignation. The other was bad, but there was a possibility of helping matters out in this case. The itinerary of Denison's trip was published, and Kansas City had been omitted. We started using the telegraph wires, and succeeded in changing the program for the trip, the revised schedule calling for one day in Kansas City, Thursday, February 9.

It was decided to make that day a full one, even if it only started at 1.40 P.M., and ended at 11.59 P.M., so a program was arranged that did not even allow Dennie time to wash his face. In the afternoon he spoke to prospective students at two high schools and one preparatory school here. Then he was rushed back to the hotel for an interview with several other prospective students. Before he had finished with them it was time for the alumni dinner, which was



The Dayton Technology Association Dinner, February 20

held at the Bellerive Hotel (which hotel is operated by M. J. Firey, '03). After dinner President Hall made a short talk, lamenting the resignation of Denison, and Mr. Henrici also made a few remarks on the same subject. Dennie gave a talk, telling us of present conditions and future expectations at Technology, and dwelt at some length on the dormitory question. He also showed several reels of pictures taken in and around the Institute.

After that, Page Golsan, '12, showed some of his own moving pictures of the last graduation in Boston and the reunion in New York. Also some scenic pictures made on a rather extended motor trip last summer. They were excellent.

Of course no evening is complete when Dennie is present unless he performs with the piano. So he sang some of his favorites and we joined him in some Technology songs. Believe me, he made that piano walk all over the room. Thus ended a pleasant evening for us and we hope a happy one for Dennie.

Those present, in addition to the guest of honor, were: Brown, '20; Breitenbucher, '28; Cushing, '11; Driggs, '21; J. J. Falkenberg, '19; Firey, '03; Golsan, '12; Hall, '23; Havens, '09; Henrici, '06; Littrell, '23; O'Brien, '18; Pomeroy, '23; Price, '08; Scholtz, '23; Rapelye, '08; and Crenshaw, '24. In addition to these Alumni, there were several future students whom we entertained at the dinner.

To be serious for a moment, we of the Southwestern Association of M. I. T. deeply regret Denison's decision to resign, and feel that it is a great loss to the Alumni Association, and one that will be hard to overcome. However, we realize that this regret is from selfish motives. So, on the other hand, we are glad to see Denison progress, and we wish him all the luck in the world in any new undertaking, and only wish we could now give him as big a boost in his new field as he has given the Alumni Association. But don't forget, we will be just as much behind his successor as we were behind Denison. — Bransford W. Crenshaw, '24, Secretary, Henrici-Lowry Engineering Company, 402 Security Building, Kansas City, Mo.

The Technology Club of Cincinnati

The annual meeting of The Technology Club of Cincinnati was held in the Italian Room of the Hotel Gibson, Friday, February 17, where dinner was served to forty members and O. B. Denison, '11, our Alumni Secretary. Due to the illness of Herman Lackman, President, E. H. Kruckemeyer, '11, Vice-President,

presided. In the course of the dinner, at the behest of the irresistible O. B. Denison, all voices were raised in the earnest rendition of "Take Me Back to Tech", which was followed by Dennie himself in fine voice and touch in his own popular selections.

The business of the evening was headed by the report of Stuart R. Miller, '07, Chairman of the Scholarship Committee, the special pride of the Club, who reported the continuance of the scholarship fund and the satisfactory coöperation of our student candidate now at the

Institute. The Secretary's and Treasurer's reports showed a healthy activity and good financial standing for the past year.

Upon the report of the Nominating Committee, the Secretary was by duly seconded motion instructed to cast the electing ballot for the nominees mentioned. Accordingly the officers for the year are: President, E. H. Kruckemeyer, '11; Vice-President, Roy H. Green, '21; Secretary, William V. Schmiedeke, '12; Treasurer, Oliver L. Bardes, '21; Directors, F. G. Baldwin, '06, A. H. Pugh, '97, and J. S. Raffety, '22.

The meeting having been turned over to Denison, the members were given a thorough account of the Institute's growth, both in property value and endowments, the advancement made in dormitory expansion, the establishment of the new Aeronautical Laboratory and the new Homberg Memorial Infirmary — just to mention a small part of the ground covered. In addition there were those ever interesting accounts of student activities. The showing of the new Technology movies was undoubtedly the crowning feature of the evening. They are indeed a worthy presentation of a great subject.

A note of sadness could not but be sounded as Denison announced his resignation. His masterly presentation of the story of the Massachusetts Institute of Technology and his handling of the movies was a fitting climax to his work as witnessed by the Technology Club of Cincinnati. The yell given in his honor was the expression of sincerest appreciation of his past efforts and best wishes for his future success.

This annual meeting closed with a motion favoring the report of Professor Emerson, consulting architect for our new Public Library, regarding the choice of sites for the new building with the recommendation that the sites be given consideration in the order named by him. — William V. Schmiedeke, '12, Secretary, Penker Construction Company, 123 Valencia Street, Cincinnati, Ohio.

Southeastern M. I. T. Association

A dinner was given in honor of Dennie's visit to Alabama at the Southern Club on February 2. Nineteen trustees decorated the periphery of the linen-covered slab, and hastily devoured the nourishment furnished in anticipation of the entertainment to follow. Thanks to the loud piano and small room, when some familiar Technology tunes were struck up, we sounded like the Handel and Hadyn Society bellowing "The Messiah" —



TECHNOLOGY ASSOCIATION OF JAPAN

Top row, left to right: U. Takashima, '21; Matt Brodie, '02; K. Goto, '11; U. Nabeshima, '19; J. P. Fish, '12; K. Tsuruta, '05; T. Hasegawa, '09; K. Itoh, '16. Middle row, left to right: H. Nakayama, '17; I. Sugimura, '18; I. Wada, '19; W. W. Stevens, '08; Dr. Takuma Dan, '78; T. N. Mitsui, '18; M. Yendo, '08; T. Furuichi, '12; K. Kurokawa, '19. Bottom row, left to right: K. Horiuchi, '23; Y. Namba, '21; M. Kametani, '25; Y. Kubota, '23; K. Hashimoto, '20; I. Tsuzuki, '19; Y. Tanaka, '07

in volume only. Dennie smoothed over the riot of accusations that followed his characteristic solos, and then put us in touch with the latest developments at the Institute. Then he produced some movies that made the young and embryonic very homesick. At the conclusion, the Secretary was instructed to draw up resolutions expressing the Club's appreciation of Dennie's efforts and commending him for his remarkable success as a builder of a bigger and stronger Alumni Association.

On February 16, the regular monthly meeting was held at the Tutwiler. The attendance dropped to ten as compared with the usual fifteen, but the wily Secretary had sensed such an occurrence after the big dinner and cut the reservation. Paul Chalifoux, '02, who has just spent six months helping Europe pay its debt, managed to get around and told some interesting tales of conditions across the lake. It seems that it is much cheaper to live in Paris than in Birmingham, and an agent of the White Star Line, had he been present, would have found some new customers.

The affairs of the day having been settled and a little business scraped up, the coffers were enriched and each returned to his task or pleasure. — Russell W. Ambach, '24, *Secretary*, Alabama Power Company, Birmingham, Ala.

Detroit Technology Association

On Tuesday, February 14, the Detroit Technology Association held its annual dinner in place of the regular monthly meeting. About seventy-five Alumni and guests gathered at the University Club, were royally welcomed, and served with the kind of meal that makes every one feel in just the right mood. Our speaking program was ably handled by the toastmaster of the evening, President P. C. Baker, '16. Professor William Emerson of the Institute very kindly consented to be our guest and principal speaker, and we certainly are deeply indebted to him for all his

efforts: first, in giving us such a real talk; and second, for his time and inconvenience in making the trip to our city. Professor Hornbostle, head of the Department of Architecture of Carnegie Technology of Pittsburgh, was also most enjoyable. Mr. John Stahl, President of the Michigan Society of Architects was one of our guests and speakers.

As is our custom of choosing one particular industry about which the annual meeting is built, this year the architects and builders ruled. Detroit has seen some notable buildings completed recently, and has more now under construction. In particular is the Fisher Building that will eventually represent a total investment of \$35,000,000. Our good Technology alumnus, Howard C. Blake, '06, is responsible for the design and construction of this structure. — E. F. Doten, '19, *Secretary*, 132 Pingree Street, Detroit, Mich.

M. I. T. Alumni Association of Cleveland

During the month of January we had the pleasure of having Dr. Tryon in Cleveland to address the M. I. T. Alumni Association of Cleveland at our Annual Banquet. Dr. Tryon gave a very interesting talk to us, telling of his varied experiences in all parts of the country in his recent trips to secondary schools. A vote of thanks was given to Dr. Tryon for including Cleveland on this trip.

After the Cleveland meeting, Morse Rew, '09, Vice-President of the Club, escorted Dr. Tryon to the Case School of Applied Science; Western Reserve University; Wooster College, Wooster, Ohio; Oberlin College at Oberlin, Ohio, with the thought in mind that students might be interested in entering Technology for graduate work.

At the meeting the annual election of officers was held, Frank Walker, '00, was re-elected President, Morse Rew was re-elected Vice-President, and C. H. Reed, '20, and L. B. Davis, '22, were newly elected to the offices

of Treasurer and Secretary respectively. It was decided that a monthly meeting to be held on the first Friday at the Allerton Club Residence in Cleveland at 12:00 o'clock noon, would be more satisfactory and would enable more men to attend the luncheons than has heretofore been the case when the luncheons were held weekly. The new arrangement for luncheons was unanimously adopted.

On January 23, a meeting of the Executive Committee was held and the program for 1928 outlined, including the Ohio Dormitory Fund, the Scholarship Award, and the entertainment for the noon luncheon meetings.

On February 23, Orville B. Denison, was present at a joint meeting held at the Sleepy Hollow Country Club between the Cleveland and Akron Clubs. Mr. Denison gave his usual interesting and spirited talk on current events at Technology, and expressed the need of Ohio Alumni sponsoring a dormitory. Following Mr. Denison's talk, a very interesting address was given by Dr. Karl Arnstein, head of the Goodyear Zeppelin Company on "Lighter than Air Craft." This subject was of unusual interest at this time, inasmuch as the City of Cleveland is making a desperate attempt to obtain the new two million dollar Goodyear Zeppelin factory which is to be built in the very near future at either Cleveland, Baltimore, or Los Angeles.

New additions to the family of Technology Alumni in Cleveland include: E. R. Baldridge, '22, who is now with the Cleveland Folding Machine Company; Hall Kirkham, '23, now with the Central National Bank, Cleveland; and Frank Schreiner, '26, now with the Niles Tool Works of the Pratt and Whitney Company.

Don't forget the time and the place — 12:00 o'clock noon at the Allerton Club Residence on the first Friday of each month for the Technology Luncheon, if you are in Cleveland. — Laurence B. Davis, '22, *Secretary*, Cities Service Oil Company, 4614 Prospect Avenue, Cleveland, Ohio.



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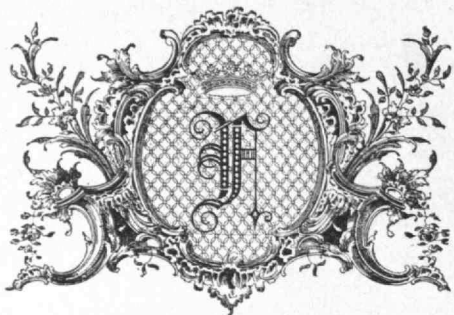


THE Mississippi was rising sullenly—ripping jagged crevasses in even the most stoutly built levees, inundating wide areas of farm lands, making thousands homeless.

At one of the many towns facing the crisis, a break came spreading ruin through the streets. A government steamer rescued 900 refugees, but the four telephone operators refused to forsake their posts. The telephone company notified the operators that they were not expected to stay. Friends warned them to leave at once. They decided to remain on duty, and the exchange was the only thing in town that continued to carry on.

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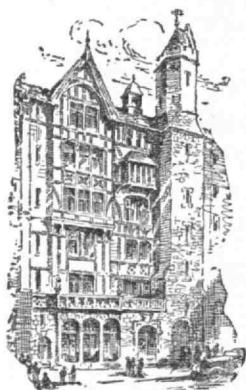
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Books

Continued from page 357

It was on May Day that they were hospitably received by the Soviet garrison of Kizil Rabat Post and presented their credentials, including the Borah letter. During the next four weeks the theory was vindicated as they counted 1,600 or more of these rare sheep. Splendid specimens of all sizes and ages, including males with a horn length of nearly five feet, were shot and sent back for the American Museum. Of live *Ovis poli*, they made the first motion pictures.

Thus attaining one major objective they crossed back into Chinese Turkestan and rested at Kashgar on the northwestern edge of the Takla Makan Desert. From an average altitude of 15,000 feet in the Pamira they had descended to 4,400 at Kashgar, where they received, by the Chinese radio, word from Andrews. His message read, "Impossible leave Peking."

Undaunted Morden and Clark pushed on along the southern wall of the Thian Shan Mountains to Aksu, secured specimens of the *Gazella subgutturosa* or "goitered gazelle," and cut up into the mountains to hunt Thian Shan ibex, wapiti and roe-deer.

Upon coming down from the mountains and crossing the Turfan Depression—910 feet below sea level—they reached Urumchi, a city of 60,000 inhabitants and capitol of Chinese Turkestan. Here the Italian manager of the Chinese post office, who entertained them, proved to be a subscriber to many American magazines and the proud possessor of a phonograph, a modern bathroom, a comfortable couch, a "well-stocked cellar" and a Packard twin-six which had come from China across the Gobi Desert.

At Urumchi, the idea of going to Hami was abandoned, and they headed for the Altai Mountains and crossed into Mongolia. British, Russians and Chinese had treated them with courtesy, but they were to learn that Mongolians do not like foreigners. Early in November a patrol of Mongol soldiery held them up at a military post called Ji-ji-ho and they were imprisoned, tortured and nearly killed. Even the magic Borah signature was of no avail, for the Monguls had never heard of him or of the United States for that matter. Fortunately their captors took them to Kobdo instead of killing them on the spot, and at Kobdo the Russians were finally prevailed upon by the magic letter to intervene and grant permission to drive in sleighs a frost-bitten 600 miles to Biisk. There a branch of the Trans-Siberian railway led to the main line at Novo Sibirsk, which point they left on Christmas day for Peking, where Morden and Andrews finally kept the date.

Mr. Morden tells his story simply and modestly, and tells it well. Three uniquely contrived maps (on which Frederick K. Morris, Assistant Professor of Geology at Technology collaborated) enable the meticulous reader to trace the progress of the Expedition. Much detailed information is properly relegated to appendices in which are summarized day to day weather conditions, altitudes, times on the road, modes of transport—motor cars, horses, yaks, camels, wagons, sleighs, and the Trans-Siberian railroad as well as shank's mare—and an inventory of the equipment taken. No attempt was made to be exhaustive in compiling the inventory, but

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Continued from page 382

such items as 120 pounds of silver or "hard money" (which two coolies packed over the Burzil Pass) to pay for local transport and supplies, the books taken, the well-stocked medicine chest, the photographic equipment, and the presents for the natives (ranging from binoculars "for the most important native officials" to "miscellaneous toys" for the lesser fry) give arm-chair globe-trotters an idea of the properties (in addition to a letter from Senator Borah) needed to stage a properly conducted journey over the "Marco Polo Trail from Bombay to Peking."

H. E. L.

Books in Brief

ANIMAL BIOLOGY, by J. B. S. Haldane and Julian S. Huxley. \$2.50. xvi + 344 pages. New York: Oxford University Press, American Branch.

ALAY reader can get a glimpse into the mysteries of zoölogy when two authors like those now under consideration haul out the innards of a specimen man, spread them out on a table, and before the reader's very eyes explain the anatomy and bio-chemistry of the once-living corpse. What is dull and unreadable in the following excerpts chosen at random from "Animal Biology"? Normal man must lose some 3,000,000 calories of heat per day through perspiration, and the world's record is held by an English coal miner who evaporated eight litres in five and one-half hours — most of our bodily organs are kept alkaline in order to prevent their digesting themselves under the action of the digestive agents, enzymes — that the activity or inactivity of the pituitary gland makes giants and dwarfs — that it is the acid reaction of dissolved carbon dioxide which stimulates the respiratory system to greater activity when we exercise violently. All interesting information might be useful if advertising agents were to find a new factor upon which to base a campaign parallel to that against not-enough-sunshine, pyorrhea, and halitosis. Important also in the light of evolution's recent far-reaching social-political consequences are the three chapters devoted to an exposition of the three major evolutionary hypotheses and their working out in nature.

The authors set out to write an introductory textbook that would hold the attention of students with only a casual interest in zoölogy. They succeeded in plucking out some of the interesting facts of the subject, and so well did they do it that "Animal Biology" deserves a place on that long shelf of "outlines" and "stories" of man's knowledge: architecture, history, philosophy,

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HEATING

Continued from page 384

and so on. Both are well known to the reading public: Professor Huxley, the grandson of Thomas Huxley, has several books and essays to his credit; Professor Haldane has contributed to American magazines (notably *Harper's*) speculative articles on life here on this earth in the coming ages.

SOUTHERN EXPOSURE, by Peter Mitchel Wilson. \$2.50. 197 pages. Chapel Hill, N. C.: *The University of North Carolina Press*.

THIS book gives the impression of having been leisurely dictated. Ambling and unstudied reminiscences fill the most of it — memories of social, university, and political life in North Carolina from 1851, when antebellum plantation life prevailed, until the present time, when industrial progress gains momentum and almost sweeps the old away. The life of Mr. Wilson has spanned this transition period and he is able to look upon it through the wide-angle lens of well preserved and advanced age. The chapter, *Journalism in North Carolina: Hale, Saunders and the Observer*, records the little-known history of one of the most capably edited provincial newspapers ever published in this wide land.

The Foreword to the book strikes a false note; one W. W. Fuller, obviously over-anxious to praise the author, fetches out some out-moded rubber stamps: "Carolina gentleman," "invulnerable honor and unsullied kindness," "fine flower of southern gentility." The South needs a Cervantes; Mark Twain did not finish his treatments intended to counteract Sir Walter Scott's inoculation of the South with an impotent virus of mediæval folderol.

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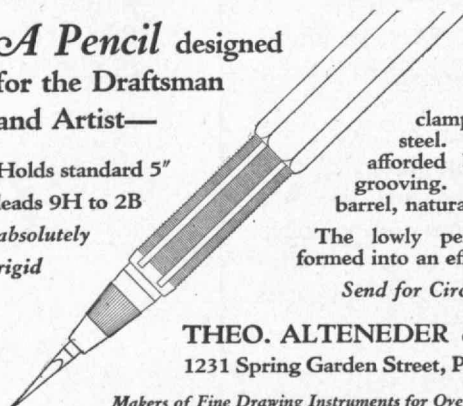
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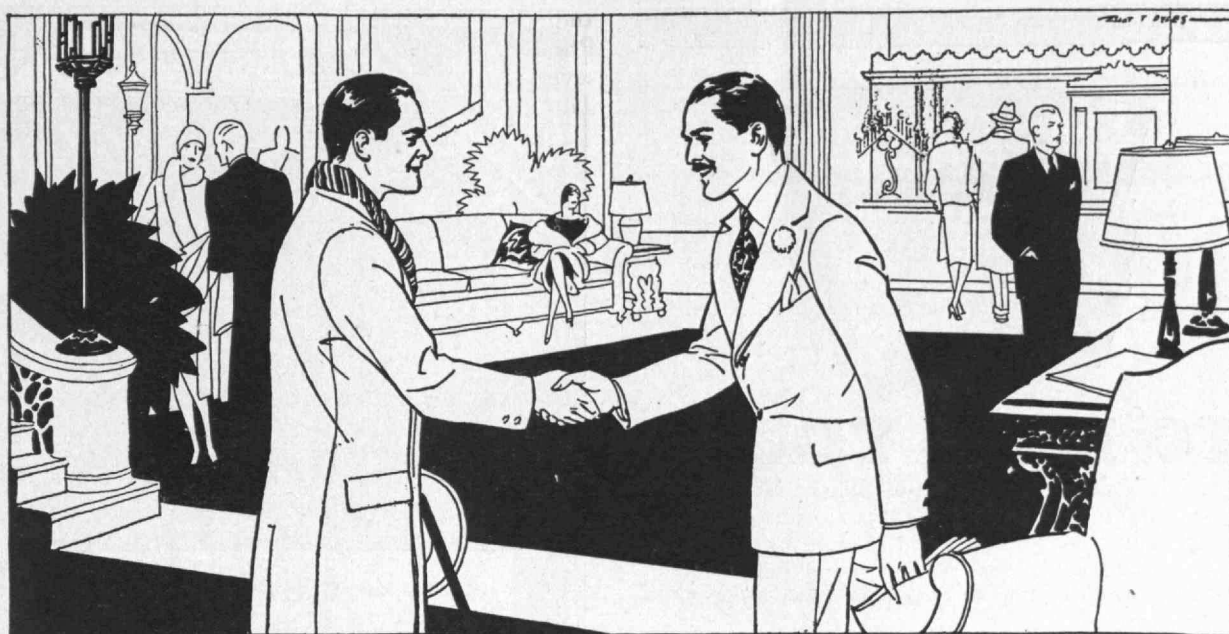
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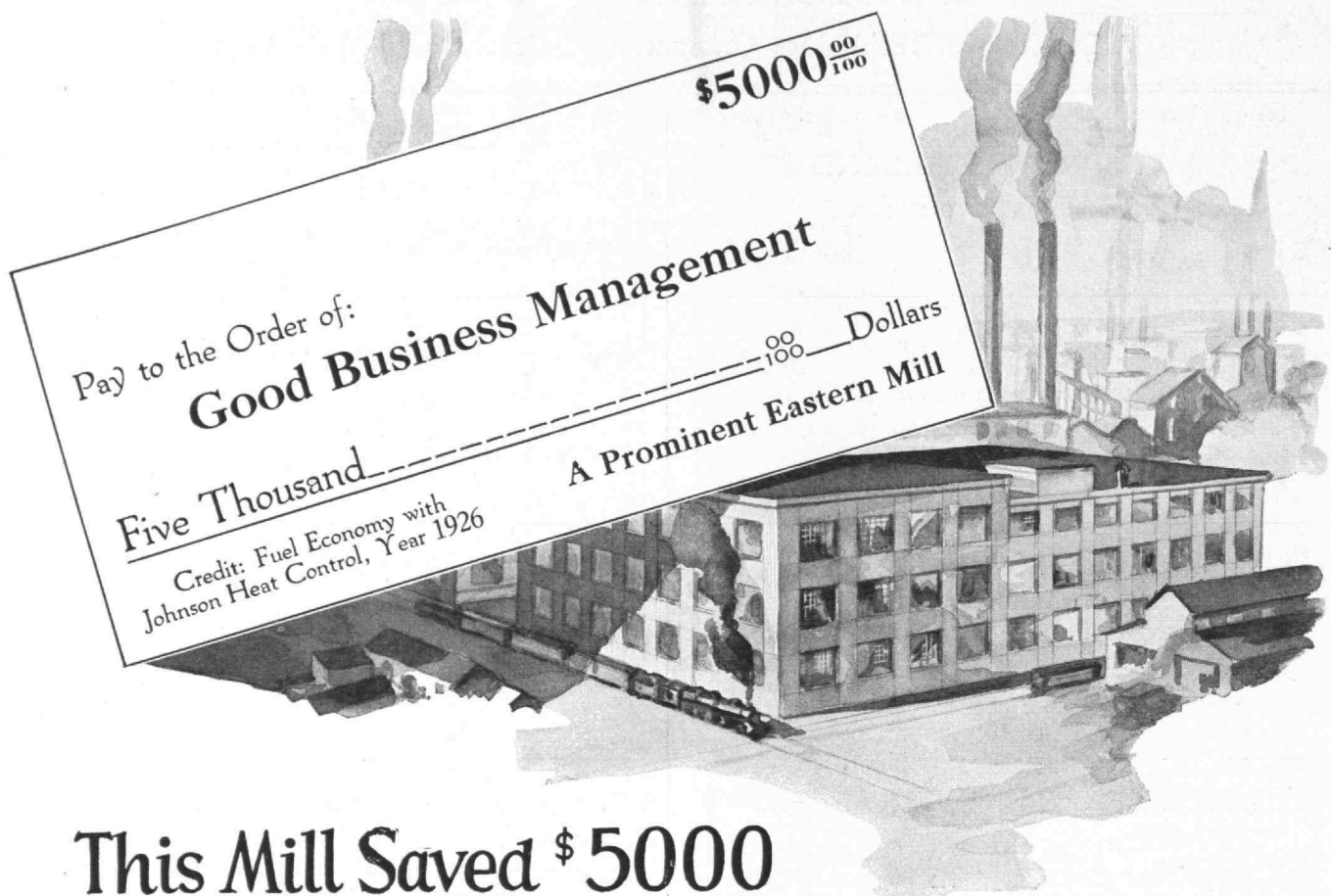
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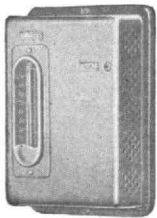
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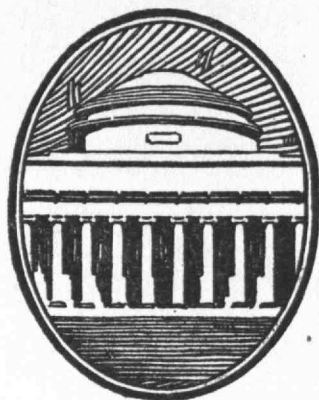
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